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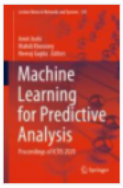

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Autonomous Vehicle Simulation Using Deep Reinforcement Learning

Authors Authors and affiliations

Rishikesh Kadam, Vishakha Vidhani, Bhavika Valecha, Anushree Bane, Nupur Giri

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Abstract

The reinforcement learning algorithms have been proven to be extremely accurate in performing a variety of tasks. These algorithms have outperformed humans in traditional games. This paper proposes a reinforcement learning based approach to autonomous driving. The autonomous vehicles must be able to deal with all external situations to ensure safety and to avoid undesired circumstances such as collisions. Thus, we propose the use of deep deterministic policy gradient (DDPG) algorithm which is able to work in a complex and continuous domain. To avoid physical damage and reduce costs, we choose to use a simulator to test the proposed approach. The CARLA simulator would be used as the environment. To fit the DDPG algorithm to the CARLA environment, our network architecture consists of critic and actor networks. The performance would be evaluated based on rewards generated by the agent while driving in the simulated environment.

Keywords

Autonomous driving Imitation learning Reinforcement learning Deep deterministic policy gradient Simulation CARLA simulator Self-driving agent

Detection of Dyscalculia Using Machine Learning

Publisher: IEEE

Nupur Giri ; Tamanna Saini ; Kalpesh Bhole ; Anuraj Bhosale ; Tanishqa Shetty ; Alka Subramanyam ; Swati Shelke All Authors

Abstract:
The detection of learning disabilities is still tedious and time consuming and a deep research is required for the simplification of the same. Dyscalculia is one of the Specific learning Disorders (SLD) with a specific impairment in Mathematics. Early detection of Dyscalculia is one of these tedious, time consuming tasks. Detection of Dyscalculia is carried out by conducting various tests where every individual test has to be conducted and evaluated manually as the scores of these individual tests alone are not sufficient for detection. For some cases, the scores from these tests are not sufficient. Some extra tests like Curriculum Based Test [CBT's] and/or Wide Range Achievement Test [WRAT] are to be administered. Artificial intelligence (AI) for health care involves the use of complex algorithms to emulate human cognition in the perusal of complicated medical data. The derivatives of Woodcock Johnson Tests of Achievements are used to determine learning disabilities. These tests are conducted by the doctors.

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I. Introduction

Learning Disabilities affects the thinking ability of a person and the person can face difficulty in completing everyday activities smoothly. There are different types of Learning Disabilities, amongst these some of the most common learning disabilities are: •

Dyslexia- It is also called reading disability. In Dyslexia, the person faces difficulty in reading and also in hearing sounds and relating them.

•

Dysgraphia-It is also called writing disability. In Dysgraphia, the person faces difficulty in

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AI for Accessibility: Virtual Assistant for Hearing Impaired

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Saket Ozarkar ; Raj Chetwani ; Sugam Devare ; Sumeet Haryani ; Nupur Giri **All Authors**

Abstract:
Speech is one of the essential communication methods for human beings. The present solutions available for people with hearing disabilities are limited due to accessibility and expensive due to the high cost of hardware components. Sound classification methods are primarily used in smart assistants and smart home products. This technology has a lot of potential and can be inculcated in an application-based solution for deaf people. Apart from this, solutions pertaining to Sign Language Recognition are limited in usability and features as most of these products are limited to only the alphabet's recognition, which is real-world usage is inadequate. With the advancement in pose estimation algorithms, a solution can be developed which can recognize words and sentences to improve the efficiency of daily communication.

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Date of Conference: 1-3 July 2020

Date Added to IEEE *Xplore*: 15 October 2020

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Print on Demand(PoD) ISBN:978-1-7281-6852-4

INSPEC Accession Number: 20064103

DOI: 10.1109/ICCCNT49239.2020.9225392

Publisher: IEEE

Conference Location: Kharagpur, India

I. Introduction
Speech plays an important role and makes our daily life more convenient. According to the World Health Organization (WHO)[1], around 466 million people worldwide have disabling hearing loss, and 34 million of these are children. It is calculable that by 2050 over 900 million individuals can have disabling hearing disorder. The prevalence and incidence of disability in Asian countries are well high. In India, sixty-three million individuals (6.3%) suffer from important sense modality loss. Four in every 1000 children suffer from moderate to extreme hearing loss. Hearing impairment in India is a severe, but grossly neglected disease ... ful inadequacy of facilities of any type for the deaf people. We are mainly focusing on issues faced by these deaf people during the day to day commute. In a country like India where there is a huge crowd and traffic on the roads, people with hearing disabilities find it extremely

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AI-based prediction for early detection of Tuberculosis in India based on environmental factors

Publisher: IEEE

Cite This PDF

Nupur Giri ; Richard Joseph ; Sanika Chavan ; Raghav Heda ; Reema Israni ; Ritika Sethiya All Authors

Abstract:
Machine Learning and Deep Learning can play an essential role in determining the spread of diseases. The proposed system aims at predicting the spread of Tuberculosis by understanding the impact of various climatic and pollution parameters on the disease. The proposed solution takes into consideration the information related to Tuberculosis in different districts of India; and the climatic and pollution parameters for those regions. This information is then used to understand the sustainability conditions of Tuberculosis and correlation of different environmental factors with a number of cases of Tuberculosis. This can then help in the prediction of the spread of disease. The system will also provide visualizations depicting the spread pattern of Tuberculosis, of the different regions affected in the past and the regions which may get affected in the near future.

Published in: 2020 19th IEEE International Conference on Machine Learning and Applications (ICMLA)

Date of Conference: 14-17 Dec. 2020

Date Added to IEEE *Xplore*: 23 February 2021

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INSPEC Accession Number: 20489696

DOI: 10.1109/ICMLA51294.2020.00053

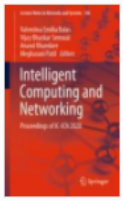
Publisher: IEEE

Conference Location: Miami, FL, USA

I. Introduction

Measuring the health effects of climate change and air quality can only be very approximate. According to the World Health Organization (WHO) assessment, approximately 250,000 additi[illegible]r between 2030 and 2050 due to climate change [1]. Morgan Stanley's Research Report 2019, highlights that rising temperature can cause the spread of infectious diseases [2].

Authors



Intelligent Computing and Networking pp 91-99 | Cite as

Harvest Treasure: Prediction of Best Crop Yield

Authors Authors and affiliations

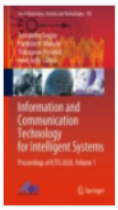
Gresha S. Bhatia, Simran Bhagwandasani, Rahul Bhatia, Urjita Bedekar, Pranit Naik

Conference paper
First Online: 23 October 2020

Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 146)

Abstract

Agriculture is one of the most critical and essential occupations practiced in our country. It is an economic sector that plays an essential role in the overall development of the country. Thus, the modernization of agriculture is significant and thus will lead the farmers of our country toward profit. Earlier, the sowing of crops was performed by considering the farmer's knowledge in a particular field and about a specific crop. However, as the weather conditions change very rapidly, farmers cultivate more and more crops that do not give an expected yield, thereby reducing their profits. Being this as the current situation, many of them do not have enough knowledge about the new crops and are not entirely aware of the benefits they get while farming them. Also, farm productivity can be increased by understanding and forecasting crop performance in a variety of environmental conditions. The proposed system applies machine learning and prediction algorithms to identify the pattern among data and then process it as per input conditions. This in turn will propose the best feasible crops according to given environmental conditions. Thus, this system will only require the land area of the user, and it will suggest a number of profitable crops providing a choice directly to the farmer about which crop to cultivate. As past year production is also taken into account, the prediction will be more precise.



International Conference on Information and Communication Technology for Intelligent Systems
ICTIS 2020: Information and Communication Technology for Intelligent Systems pp 335-344 | Cite as

Crop Prediction Based on Environmental Conditions and Disease Prediction

Authors Authors and affiliations

Gresha Bhatia, Nikhil Joshi, Srivatsan Iyengar, Sahil Rajpal, Krish Mahadevan

Conference paper
First Online: 22 October 2020

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 195)

Abstract

In the proposed system, we intend to use machine learning and deep learning algorithms to predict which crops can be grown on a particular field given its soil type, environmental conditions like rainfall, humidity, temperature and so on. We also wish to design a disease prediction model as an additional feature which helps the farmers to identify if their crops are suffering from any diseases. This will help the farmers to ensure that their crops stay healthy throughout their period of growth. Also if the crops are suffering from a disease, we would be able to detect that and suggest what must be done to cure the disease and avoid it in future. This would require data analytics, data warehousing techniques to be employed to prepare a good and appropriate data set to train the selected model. For interacting with the farmers, we would develop a Web portal so that the farmers can access our system and use it for himself/herself.

Keywords

Machine learning Deep learning Data analytics Data warehousing

Classification of Cardiac Arrhythmia using Kernelized SVM

Publisher: IEEE Cite This PDF

Yogita Bhatia ; Akanksha Mittal ; Shefali Athavale ; Tanya Mohanani ; Gresha Bhatia All Authors

Abstract:
Cardiovascular diseases are one of the major causes of death in the world. These diseases include abnormalities in the smooth functioning of the heart causing cardiac arrest, blockages, and other related problems. One such ailment is the irregularities in the heartbeat of the person. Due to this, the movements of the heart are not operating at the normal pace causing palpitations and cardiac arrest. Though Electrocardiogram (ECG) is one of the most popular and widely used methods for monitoring the heart's electrical activity, it becomes quite strenuous for understanding the ECG reports which is a manual approach. So, there is a need to develop a system that could determine the condition a prior and classify them according to its severity. This paper focuses on the ECG deflections, cardiac arrhythmia, and its types. The paper further dwells into the development of an automated system to detect and classify arrhythmia. Various Machine Learning algorithms like Support Vector Machine (SVM), Random Forest Classifier (RF) are analyzed that lead to the identification of the optimized machine learning algorithm for classification of cardiac arrhythmia to distinguish the patient with arrhythmia. Kernelized SVM has been identified as the most accurate model.

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INSPEC Accession Number: 19856805

DOI: 10.1109/ICOEI48184.2020.9143000

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

The word "arrhythmia" means a change in the normal sequence of electrical impulses. The electrical impulses can be too fast, too slow, or erratic - causing the heart to beat irregularly. When the heart do beats), it can't pump blood effectively throughout the body. When this happens, organs like lungs, brain, etc can't work properly and may shut down or be damaged permanently.

Data Management, Analytics and Innovation pp 183-193 | Cite as

Extraction of Tabular Data from PDF to CSV Files

Authors Authors and affiliations

Gresha Bhatia, Abha Tewari, Grishma Gurbani, Sanket Gokhale, Naman Varyomalani, Rishil Kirtikar ✉, Yogita Bhatia, Shefali Athavale

Conference paper
First Online: 19 August 2020

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1174)

Abstract

Companies generate their reports in the form of PDF files. For further data analysis, the statistics or quantitative data in these reports have to be converted to CSV (.csv) or Excel (.xlsx) files. This is done manually by companies. This consumes a lot of time and manual work which can be reduced for better utilization of resources. Forecomp is a web application to automatically convert the tables in the PDF to CSV files. The tables could be present in text format or as an image. The web application is built keeping flexibility in mind such that the user can select the process used to convert the PDF into CSV files based on the tables in their PDF. Different technologies used in this application include YOLO model for machine learning, Tesseract OCR, Tabula, and an inbuilt snipping tool. This paper introduces the concepts behind Forecomp focussing on the methodology employed and the various results obtained.

Keywords

Optical Character Recognition (OCR) YOLO model Machine learning
Comma-Separated Values (CSV) Portable Document Format (PDF)

Recent trends in Management and Commerce
Vol: 1(1), 2020
REST Publisher
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Website: http://restpublisher.com/book-series/rmc/

Predicting HCAHPS scores from hospital reviews and social media pages

Prof. Mrs.Sujata Khedkar[1], Smith Gajjar[2], Hrithik Malvani[3], Jai Soneji[4], Sonia Thakur[5].
[1]Associate Professor, Department of Computer Engineering, VESIT, University of Mumbai, India.
[2,3,4,5] Department of Computer Engineering, VESIT, University of Mumbai, India.

Abstract

Nowadays, we can find any information related to any business firm or any facilities easily on the internet. But sometimes the available data is not in the required format and may need some processing. Once the processing of data is done it can be used for various purposes. Similarly, we can find many hospital websites on the internet and we can also read the reviews given by patients who had already visited that particular hospital. But this data is available in different forms and at different places. In this paper, we focus on the problem of predicting HCAHPS scores from hospital reviews and social media pages. Some existing examples of HCAHPS parameters include communication with doctors and nurses, the responsiveness of hospital staff, the quietness and cleanliness of the entire hospital environment, relevance of medicines, discharge information and overall rating of hospital. The data is first collected from different sources, which is then processed and applied to different algorithms. Proper prediction of the HCAHPS score of the hospital will help people to understand and go for better treatment.

Keywords: HCAHPS - Hospital Consumer Assessment of Healthcare Providers and Systems, FS - Feature sets,

1. Introduction

Customer/Google Reviews are extremely useful to gather information about the working of any organization/hospital. We can gather information about a particular organization/hospital from various sources like the internet or face to face communication. When people need to visit a hospital they try asking their relatives or their friends to get information about a hospital. But when there is some urgency and if none of the relatives or friends is available or if a person is a new resident of a particular area and if they are in search of a good hospital then they can take help from the reviews given by the other people. So here social media plays a very important role in helping these people to find a place for better treatment. People who have visited the hospital also play a very important role by writing reviews for a particular hospital from their experiences. The information available on the internet can be helpful to many people and can save their time in finding a good place for their treatment. As reviews posted by people may contain various kinds of information, it might be useful to automatically identify the exact nature of the information that is present in a given review. A review posted on the internet can contain much useful information like the nature of doctors, cleanliness, the infrastructure of the hospital, etc. In many cases, a single review may contain information about multiple categories. This review can be termed as a multi-class single-label classification problem and need to run different algorithms to solve this type of classification problem. In some reviews, the reviewer writes very short reviews for eg: "good" or some time reviewer writes a review in an informal way for eg: "use of smileys or abbreviations" this acts as a major problem while classifying the reviews. The contributions of the work are given below: – We identify different feature sets for representing the reviews. Along with tf–idf features we use a few features derived from the tweet collection. The performance of each classifier, for different feature sets, is analyzed in detail. We also evaluate the effect of adding extra features in detail. The structure of the rest of this paper is as follows. We discuss related work from literature in Sect. 2. We farther discuss the use of social media for predicting HCAHPS scores from the dataset containing information in Sect. 3. Then, in Sect. 4, we define the problem of tweet classification. A description of the classifiers and various features used in the work are presented in Sect. 5. Our experimental set up is discussed in 6. Experimental results are presented and discussed in Sect. 7. We conclude the paper with a brief discussion of our findings in Sect. 8

2. Related work:

In this section, different ways of collecting textual data (Customer reviews) has been explored and also how scores are given on NLP Projects

Analyzing Free-text comments: In [1], the author determines the topic from the customer textual reviews to know their context and also the author has implemented automatic topic classifiers and worked on finding the negativity of comments by using Sentiment analysis and for detailed topics, the author has determined the common topics within the negative comments. After sentiment analysis, a total of 28 topics were determined but only 7 most frequent were considered. For automated topic classification, they developed vocabulary-based and Naive Bayes classifiers. The free-text comment fields, which are filled out in nearly 50% of patient surveys, are underutilized. The Center for Medicare and Medicaid Services

Video Analysis and Natural Language Description Generation System

Publisher: IEEE

Cite This PDF

Bhavesh Ahuja ; Austin Coutinho ; Chandan Bhangale ; Chinmay Sankhe ; Sujata Khedkar All Authors

Abstract:
The project revolves around the idea of scene understanding purpose based on the video input, thus not continuously monitoring the feed manually. The videos are extracted into the form of raw video frames and using 2D-3D CNN, the feature vector is extracted. Using You Only Look Once - version 3 (YOLOv3) algorithm, the objects present in a particular frame is identified. Also, the count of the objects is stored. The pose of people present in the frames is estimated for identification of movements. Through this, the actions are recognized as being performed by the people. All the words that are formed through the above three methods count to input to the LSTM cell. This cell selects the words based on their probabilities and confidence rate and forms a natural language sentence for the user to understand. Finally, the generated output can be modified or changed completely by the user using Human-in-the-loop concept, if required. The machine will retrain itself based on this input and generate better results next time. The central model is capable of identifying as well as discriminating between types of elements which are required for this project. This project was built as a continuation of the previous system, which works on object identification from live video input from drones. In the case of poor network issues, when sending video data becomes difficult, the data is sent in textual format.

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INSPEC Accession Number: 19877003

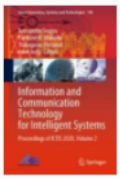
DOI: 10.1109/ICESC48915.2020.9155779

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Due to the increase in usage of the internet, the data is also being transmitted in the form of photos and videos. Hence unstructured data has increased tremendously. This data is not yet analyzed to a greater extent. Using this data, the needs of users can be very easily understood and suggest them with similar articles. The main concern of this project is surveillance and security. T[redacted]nalyzed properly to



International Conference on Information and Communication Technology for Intelligent Systems
ICTIS 2020: Information and Communication Technology for Intelligent Systems pp 389-397 | Cite as

Named Entity Recognition for Rental Documents Using NLP

Authors Authors and affiliations

Chinmay Patil, Sushant Patil, Komal Nimbalkar, Dhiraj Chavan, Sharmila Sengupta, Devesh Rajadhyax

Conference paper
First Online: 30 October 2020

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 196)

Abstract

Information retrieval is the process of extracting a pertinent set of facts from a text or a document. The documents are of unstructured format, and thus, information retrieval techniques aim at organizing this data. Named Entity Recognition is one of the information retrieval techniques which classifies a particular word or a phrase in its appropriate class. NER can thus, also be used in extracting entities from legal documents, which would help in providing an effective way to represent these documents. This would reduce the task of a lawyer scrutinizing the document, multiple times, to look for the same set of information. NER systems can be developed with different approaches, one of which is utilizing an NLP library. However, these pretrained NLP libraries may or may not be suitable for a particular use case. Hence, in this paper, we depict an approach to analyze rental documents by custom training spaCy NLP library for tagging named entities such as a person, address, amount, date, etc. The system will provide an interface for the user to upload rent documents, and the result analysis will be stored for quick insights into the document.

Keywords

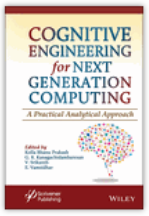
Chapter 11

Ensuring Security and Privacy in IoT for Healthcare Applications

Anjali Yeole, D.R. Kalbande

Book Editor(s):Kolla Bhanu Prakash, G. R. Kanagachidambaresan, V. Srikanth, E. Vamsidhar

First published: 06 April 2021 | https://doi.org/10.1002/9781119711308.ch11



Cognitive Engineering for Next Generation Computing: A Practical Analytical Approach

Summary

Healthcare is a service whose forthcoming appears to be motivated by innovation and data sharing. We can effectively use Internet of Things (IoT)-based healthcare systems for patient monitoring and emergency response services by maintaining security and preserving the privacy of patient's medical records. IoT devices in healthcare can gather patient's body parameters and share information with doctors, nurses and patient's relatives. Most of the time traditional method of manual recording of body parameters and reporting them to the doctors is used. This is obtained by nurses periodically for all patients. Their precious time is for taking care of patients not for recording body parameters all the time. IoT-enabled healthcare industry is the solution for the same. This article focuses on architectures and models for IoTbased Healthcare applications along with security, privacy issues and challenges by considering industry standards. Using IoT devices for health monitoring at a personal level is very easy and comfortable but using IoT at hospital level is challenging hence integration of E-health and IoT will also be discussed in this article.

Keywords

IoT healthcare security

Publication History

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03 May 2021

Published Print:
06 April 2021

ISBN Information

Online ISBN: 9781119711308

Print ISBN: 9781119711087

SAARTHI : Real-Time Monitoring of Patients by Wearable Device

Publisher: IEEE

Cite This PDF

R. L Priya ; Anish Vaidya ; Mohit Thorat ; Vinit Motwani ; Chetas Shinde All Authors

Abstract:
The proposal comprises using cutting edge technology of Internet of Things (IoT), Cloud and AI-based analytics to monitor and provide timely and proactive alerts to not only patients but also healthcare workers such as doctors, nursing homes and even remotely located family members about patient's critical health parameters. The measured raw data will record live location and calculate heart rate, pulse, temperature and detect fall through wireless devices and connect to cloud servers. Also, this data will then be merged with the patient's historical medical data and analyzed using machine learning techniques for disease prediction at an early stage. It helps the family members and health workers to monitor and manage the health parameters of patients in an efficient way.

Published in: 2020 Advanced Computing and Communication Technologies for High Performance Applications (ACCTHPA)

Date of Conference: 2-4 July 2020

Date Added to IEEE *Xplore*: 06 October 2020

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INSPEC Accession Number: 20033592

DOI: 10.1109/ACCTHPA49271.2020.9213239

Publisher: IEEE

Conference Location: Cochin, India

1 Introduction

As per the World Health Organization [11] , few chronic diseases such as heart diseases, stroke, chronic obstructive lung diseases and lower respiratory infections have remained the top killers during the past few decades. Chronic diseases cause an increasing number of deaths worldwide. Sign in to Continue Reading 1.6 million (2.8%) deaths as compared to the year 2000, where there were 1.6 million (1.8%) deaths. The death rate caused by dementia more than doubled between 2000 and 2015 and thus made it

Authors

Figures

Innovations in Computer Science and Engineering pp 171-183 | Cite as

Suvarga: Promoting a Healthy Society

Authors Authors and affiliations

R. L. Priya, Gayatri Patil, Gaurav Tirodkar, Yash Mate, Nikhil Nagdev

Conference paper
First Online: 24 April 2021

Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 171)

Abstract

In India, over 22% of the population is below the poverty line. This poverty pushes people on streets which in the future transforms into slums. These slums, as are not planned, lack certain necessities like electricity, sanitary services, and basic hygiene resources leading to a hub for the spread of diseases. In essence, the primary aim of this paper is to identify the leading causes of diseases in slum areas of Mumbai using data collected from IoT modules, health checkup drives, and various government authorities. With this information, the concerned civic authorities and slum residents will be alerted regarding the danger so that necessary action can be taken. This, in turn, promotes the healthier society in various slum regions of India.

Keywords

Internet of things (IoT) Slum management Sanitation Decision tree LSTM Air quality index Water quality index

Soft Computing and Signal Processing pp 89-99 | Cite as

Analyzing the Impact of Deforestation and Population on Carbon Footprint in Indian Cities Using Statistical and Deep Learning Techniques

Authors Authors and affiliations

Stevert Lobo, Ishma Amin, Meenakshi Agarwal, Rahul Gurnani, R. L. Priya

Conference paper
First Online: 21 May 2021

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1325)

Abstract

Reducing carbon emissions in India has been very challenging in recent years. India's carbon dioxide (CO_2) emissions are growing at a faster rate than in any other major energy-consuming nation, while the vegetation cover comprises only 25% of the geographic area of the country. The proposed system aims to investigate the influence of deforestation on the increase of carbon emissions in metropolitan cities. Based on the carbon footprint analysis, the system helps to predict the effect of deforestation on carbon emission growth over the next few years. Various spatial–temporal features including vegetation cover, population and GHG emissions (in metric tons) of Indian cities from 1998 to 2020 have been considered in the analysis. The GHG emissions are converted to their CO_2 equivalents (CO_2e) by multiplying them with their Global Warming Potential (GWP). By applying statistical models like ARIMA, VAR and machine learning techniques such as random forest and LSTM on the dataset, we have formulated a relationship between deforestation and carbon footprint growth as well as provided an estimate for the next 10 years.

Keywords

A Proposal for a novel approach to analyze and detect the fake news using AI techniques

Publisher: IEEE

Cite This

PDF

Aditya Rao ; Ankush Shetty ; Aditya Uphade ; Puneet Thawani ; Priya RL All Authors

Abstract:
Fake news is a type of news that contains deliberately incorrect information and is spread with malicious intent in fields that include and are not limited to politics, finance and entertainment. Fake news and misinformation are abundant these days due to increased access to the internet and social media websites and other sharing platforms. These can have harmful effects on society and its spread must be contained. The first step in containing the proliferation of fake news is to identify a piece of news as fake or real. The goal of our system is to train it with articles using reliable news sources using web mining techniques and subsequently analyze a piece of news using natural language processing and machine learning algorithms to classify it as fake or real.

Published in: 2020 3rd International Conference on Intelligent Sustainable Systems (ICISS)

Date of Conference: 3-5 Dec. 2020

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INSPEC Accession Number: 20366182

DOI: 10.1109/ICISS49785.2020.9316056

Publisher: IEEE

Conference Location: Thoothukudi, India

1. Introduction:

The Cambridge Dictionary defines news as a piece of information or a report about recent events and happenings. News keeps us abreast of the world around us and aids in making decisions that can affect our day to day life as well as our future. These decisions include important ones like choosing a representative to vote for or to decide if a food item is nutritious and safe to consume. News must be authentic and must present facts without any embezzlement and without perpetrating any agenda. Sometimes, news is deliberately misleading and may bend facts to suit an agenda or may misrepresent or give false facts with malicious intent. This is termed as fake news; news that contains incorrect information and is spread with bad intent. Fake news has been prevalent since the beginning of mankind, for example in the Medieval Ages such as the Donation of

Emerging Technologies in Data Mining and Information Security pp 919-929 | Cite as

Cataract Eye Detection Using Machine Learning Models

Authors Authors and affiliations

Ankush Shetty, Kunal Bathija, Priya R. L.

Conference paper
First Online: 05 May 2021

Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 164)

Abstract

A cataract is clouding of the eye lens which results in decrease of vision. The existing systems are limited to use of small size image datasets resulting in lesser accuracy, and user-friendly application is not available. The proposed model is designed to use image classification models to differentiate a healthy eye and an eye with cataract. To classify types of images, it uses the VGG16 model. This model has 16 layers. The image is convoluted and pooled at each layer of the model. With the VGG16 model, the rural denizens will be able to determine whether a person is suffering from cataract or not, without consulting an ophthalmologist. The output is then classified accordingly. The proposed system provides a UI for the detection of cataract disease.

AI-Based Autonomous Driving Assistance System

Publisher: IEEE

Cite This

PDF

Abha Tewari ; Naveed Sarguroh ; Parth Kingrani ; Tanishqa Shetty ; Rahul Motwani All Authors

Abstract:
The immense growth and research in modern technology have led to convenience and comfort becoming mankind's demand and first priority in any technology presented to them. With this, automation has become the need of the hour. The use of automation in cars is one such area that is getting more and more importance and recognition around the world. Driving demands total attention from the driver in activities such as lane-keeping and lane changing, slowing down at turns, keeping a watch on traffic lights and traffic signs, and handling the car in traffic. The smallest lapse in concentration can also prove to be very dangerous. Self-driving cars aim at making use of the latest technologies in Artificial Intelligence to automate as many features as possible and leave as little as possible for the driver to do. The main motive of the research work will be to develop a model of the software part needed for the efficient working of a driver assistance system on cars on real-time data and simulate it.

Published in: 2021 5th International Conference on Computing Methodologies and Communication (ICCMC)

Date of Conference: 8-10 April 2021

DOI: 10.1109/ICCMC51019.2021.9418403

Date Added to IEEE *Xplore*: 06 May 2021

Publisher: IEEE

Conference Location: Erode, India

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DVD ISBN:978-1-6654-0359-7
Print on Demand(PoD)
ISBN:978-1-6654-4775-1

I. Introduction

The concept of self-driving cars has been in high demand ever since the research in AI gained momentum. With the massive steps that AI has taken, designing and bringing self-driving cars into actual use has been of utmost priority. The project work focuses on

Application of LSTMs and HAND in Rapid Flood Inundation Mapping

Publisher: IEEE

Abha Tewari ; Varad Kshemkalyani ; Heer Kukreja ; Pratheek Menon ; Reuben Thomas All Authors

Abstract:
Every year, floods cause billions of dollars' worth of damages to life, crops, and property. With a proper early flood warning system in place, decision-makers can take the necessary steps to prevent or at least mitigate the damage caused by floods. Although various flood prediction models exist, a majority of them fail to be fast, reliable, and detailed simultaneously. The proposed system presents a novel hybrid flood prediction model using Long Short Term Memory(LSTM) for multivariate time series forecasting of water depth based on meteorological conditions and Height Above Nearest Drainage(HAND) to predict river stage in real-time and map the inundated areas for the corresponding water depth using enhanced HAND. Unlike traditional flood forecasting models, this hybrid approach is resource efficient and easy to implement making it highly practicable for real-time flood inundation mapping.

Published in: 2021 5th International Conference on Intelligent Computing and Control Systems (ICICCS)

Date of Conference: 6-8 May 2021

INSPEC Accession Number: 20634578

Date Added to IEEE *Xplore*: 26 May 2021

DOI: 10.1109/ICICCS51141.2021.9432332

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Electronic ISBN:978-1-6654-127[redacted] Institute of Electrical and Electronics Engineers India
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Publisher: IEEE

I. Introduction

Flood forecasting efforts date back to the 16th Century, using methods as unscientific as observing the alignment of planets [1]. With the growth in scientism over the centuries, more comprehensive methods were developed with the aim of understanding and forecasting flood events. Mod[redacted] predominantly due to the

Smart Underwriting - A Personalised Virtual Agent

Publisher: IEEE

Cite This

PDF

Mannat Doultani ; Jatin Bhagchandani ; Sneha Lalwani ; Manasee Palsule ; Aishwarya Sahoo All Authors

1
Full
Text View

Abstract:
In life, unplanned expenses are a bitter truth. Insurance policies therefore offer a semblance of support to minimize financial liability from unforeseen occurrences. The world which has faced major multiple lockdowns owing to the pandemic has certainly started thinking of ways to work online and hence reinforce the need to rethink underwriting. Traditionally, information of the client who needs insurance is sent to the underwriter through an email and after proper analysis, the underwriter sends the quick quote back to the agent based on his intuition and experience. The current process of insurance claimants is conservative, extremely tedious and time consuming. In the era of Artificial Intelligence, an individual prefers the task to be done in an efficient & less dreary manner, so rather than navigating through the website or visiting the Office in person, it would prefer an application that provides a unified platform to manage their policies. Hence chatbot is a much-optimized solution for automating the traditional underwriting process. By combining the fields of Natural Language Processing, Facial recognition, Optical Character Recognition and Blockchain, the chatbot would provide solutions for all policy related queries and operations.

Published in: 2021 5th International Conference on Intelligent Computing and Control Systems (ICICCS)

Date of Conference: 6-8 May 2021

DOI: 10.1109/ICICCS51141.2021.9432216

Date Added to IEEE *Xplore*: 26 May 2021

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Print on Demand(PoD) ISBN:978-1-6654-4834-5

Conference Location: Madurai, India

I. Introduction

During tough times like the COVID, people prefer not to interact with many people and do everything while staying at their place. People who are not well equipped with technology, especially the older generation find it difficult to go on with the traditional process where the website is cluttered with everything all over the place. Also, the current process of insurance claimants is time consuming. For example, consider person

Blockchain: The Novel Way to Secure Confidence!

Publisher: IEEE

Cite This

PDF

Jairaj Khushalani ; Sachin Chandwani ; Abdus Samad Shaikh ; Bhavesha Talreja ; Rupali Hande All Authors

Abstract:
This report intends to play out a precise audit to survey and establish the practicality of blockchain for implementing healthcare service records effectively. Traditional health records are both localized and expensive to operate; they can be improved upon by using blockchain based electronic health records (EHRs). EHRs are just electronic versions of a patient's whole clinical history. EHRs, when stored on blockchain, has some serious advantages when compared to their traditional centrally stored counterparts. The patient's medical records will be stored on a distributed network. An ethereum based decentralized application (DApp) can be incorporated to record and update medical information securely in real time using smart contracts. A decentralized application on a private blockchain network will ensure the integrity of data records and improve interoperability of the system by providing permanent access to essential details like patient's medical track record, prescription history, laboratory/ clinical reports etc. The application uses the efficiency and security of blockchain technology to solve the challenges faced by the healthcare domain.

Published in: 2020 International Conference on Electronics and Sustainable Communication Systems (ICESC)

Date of Conference: 2-4 July 2020

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Print on Demand(PoD) ISBN:978-1-7281-4109-1

INSPEC Accession Number: 19876911

DOI: 10.1109/ICESC48915.2020.9155797

Publisher: IEEE

Conference Location: Coimbatore, India

II. Introduction

In the prevailing healthcare system, if a patient visits multiple organizations for treatment his data is scattered across various independent institutions. It is the provider and not the patient who generally retains the ownership of data [13]. Furthermore, the data present with the patient is mostly on paper and involves a lot of difficulties in maintenance and record keeping. In electronic health records the information exchange is usually restricted to the same organization unless they make use of a designated intermediary for information exchange. An intermediary may vary from a single centralized system or

Fast Biometric Authentication System Based on Audio-Visual Fusion

Shivani Shenai ; Gaurav Patil ; Vedant Sawant ; Muskan Paryani ; Rupali Hande All Authors

Abstract:
In the past few years, face and voice recognition are attracting much attention. Fusion of face and voice authentication in a system will ensure secure human-machine interactions rather than the traditional password. In this age of lockdown due to the Covid-19 pandemic, more transactions take place online and it is important to undertake these transactions securely and safely. Traditional password systems and single authentication systems can be extended to the fusion of face recognition and voice detection. This paper introduces fast biometric authentication based on audiovisual fusion.

Published in: 2021 5th International Conference on Intelligent Computing and Control Systems (ICICCS)

Date of Conference: 6-8 May 2021

DOI: 10.1109/ICICCS51141.2021.9432264

Date Added to IEEE *Xplore*: 26 May 2021

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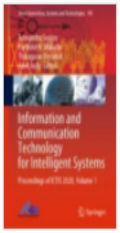
DVD ISBN:978-1-6654-1271-1
Print on Demand(PoD) ISBN:978-1-6654-4834-5

Conference Location: Madurai, India

I. Introduction

In today's era of data technology, both audio and visual information plays an important role in increasing the amount of data, resulting in an implementation strategy that makes it easy to give insights on ther

ognition are one of those two strategies that aim to authenticate users for safe and secure human-machine interaction.



International Conference on Information and Communication Technology for Intelligent Systems

ICTIS 2020: Information and Communication Technology for Intelligent Systems pp 753-763 | Cite as

Smart Employment System: An HR Recruiter

Authors Authors and affiliations

Kajal Jewani, Anupreet Bhuyar, Anisha Kaul, Chinmay Mahale, Trupti Kamat

Conference paper

First Online: 22 October 2020

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 195)

Abstract

The traditional HR recruitment process is long and time-consuming. The talent search process is restricted due to human limitations. The overwhelming number of candidates, geographical constraints and deception which cannot often be caught by experienced recruiters are some of the problems faced by the sector and there is an urgent need to address the concern with technical solutions. To optimize this entire process of HR interviews, we propose video analytics be used to screen candidates. A candidate's emotion is extracted from his speech using Mel-Frequency Cepstral Coefficients (MFCCs) as a major classification feature for the Artificial Neural Network (ANN). Deceptive Impression Management (IM), i.e. an applicant trying to exaggerate his suitability for a job by overestimating his prowess is also taken into consideration when displaying results. Thus, an NLP approach using Linguistic Inquiry and Word Count (LIWC) and Latent Dirichlet Allocation (LDA) is used for text-based measurement of deceptive IM which may help by informing organizations to take a second, more critical review of applicants when a high level of deceptive IM is detected. Finally, the Big five personalities index: Openness, Conscientiousness, Extroversion, Agreeableness, Neuroticism (OCEAN) commonly used by many recruiters, is digitized using Convoluted Neural Networks (CNN) and a personality graph generated, giving a more comprehensive view of the candidate's

A Brief Study on Approaches for Extractive Summarization

Publisher: IEEE

Kajal Jewani ; Ojas Damankar ; Nitesh Janyani ; Disha Mhatre ; Sahil Gangwani All Authors

Abstract:
Moved by the cutting edge mechanical advancements, information is to this century what oil was to the past one. Today, our reality is dropped by the gettogether and spread of gigantic measures of data. With a particularly enormous measure of information flowing in the advanced space, there is a need to create Artificial Intelligence calculations that can naturally abbreviate longer messages and convey exact outlines that can fluidly pass the proposed messages. This paper puts forth a brief survey of five major extractive methods of text summarization- the TFIDF, clustering, neural network, fuzzy logic, and graph-based approaches. A comparison of the five approaches is also presented.

Published in: 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS)

Date of Conference: 25-27 March 2021

Date Added to IEEE *Xplore*: 12 April 2021

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Print on Demand(PoD) ISBN:978-1-7281-9538-4

INSPEC Accession Number: 20633554

DOI: 10.1109/ICAIS50930.2021.9396031

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

A summary can be characterized as content delivered from at least one writing, containing a critical segment of the data from the first messages, and that is no longer than half of the first messages. Text synopsis is the way toward refining the main data from a source(s) to deliver a c ic client and undertakings. At the point whe computer, for example neutrally, we call it Automatic Text Summarization. This cycle can be viewed as a type of

A Proposal for Virtual Mental Health Assistant

Publisher: IEEE

Cite This

PDF

Sreevidya Iyer ; Dhanashree Shetty ; Purva Badgujar ; Anjali Nambiar ; Kajal Jewani All Authors

Abstract:
In these current times, mental health has become one of the most neglected and yet one of the most serious aspects of our overall well being. This paper proposes a system for a virtual mental health assistant owing to financial, time and space constraints and shortage of resources related to in-person therapy. Of tentimes, disturbed mental health is a snowball effect built up over time and requires continuous attention and conscious efforts to improve. This is possible with the help of a virtual mental health assistant. The proposed assistant will have a chat feature, psychological assessment, an emotion detection module and a recommendation system for improving the mood of the user. We have used Naive Bayes classifier and Neural Networks for sentiment analysis. Our system has shown comparatively higher accuracy for Naive Bayesian model.

Published in: 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS)

Date of Conference: 19-20 March 2021

DOI: 10.1109/ICACCS51430.2021.9441990

Date Added to IEEE *Xplore*: 03 June 2021

Publisher: IEEE

Conference Location: Coimbatore, India

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DVD ISBN:978-1-6654-0519-5
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▼ **ISSN Information:**
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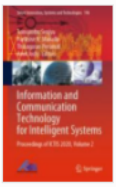
I. Introduction

Good mental health is related to mental and psychological wellbeing. WHO's work to improve the mental health of individuals and society at large includes the promotion of mental wellbeing, the preventi ion of human rights and the care of people affected by on Indians, or 7.5 per cent of the country's population of 1.3 billion, suffer from some form of mental disorder, according to the World Health Organization (WHO) [2]

Sign in to Continue Reading



International Conference on Information and Communication Technology for Intelligent Systems

ICTIS 2020: Information and Communication Technology for Intelligent Systems pp 697-705 | Cite as

Saathi—A Smart IoT-Based Pill Reminder for IVF Patients

Authors Authors and affiliations

Pratiksha Wadibhasme, Anjali Amin, Pragya Choudhary, Pallavi Saindane

Conference paper

First Online: 30 October 2020

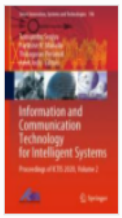
Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 196)

Abstract

Women undergoing In Vitro Fertilization (IVF) treatment have to strictly administer the stringent schedule of the entire process, which leaves them physically and emotionally exhausted. Saathi is a smart IoT-based pill reminder which aims to help the women opting for the IVF. Saathi is specially designed for IVF undergoing women, giving them the facilities of setting the reminder of their daily medications and injections, having real-time tracking of medicine consumption, maintaining their prescriptions, generating reports from real-time tracking of medicine consumption, and also allowing them to communicate with their doctor. Thus, it helps the patient to adhere to their strict schedule and monitor their intake.

Keywords

IVF Pill reminder IoT Arduino Load cell Application



International Conference on Information and Communication Technology for Intelligent Systems

ICTIS 2020: Information and Communication Technology for Intelligent Systems pp 669-680 | Cite as

sVana—The Sound of Silence

Authors Authors and affiliations

Nilesh Rijhwani, Pallavi Saindane, Janhvi Patil, Aishwarya Goythale, Sartha Tambe

Conference paper

First Online: 30 October 2020

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 196)

Abstract

When it comes to living in a society, it is important to communicate with people around us for a better living and to survive in the human race and when it comes to communication with people, the one who are hearing or speech impaired are always left behind, in other words, they have a problem communicating with other people and when it comes to video calling, they always had to use the usual text chat to communicate. Our aim is to remove this barrier and create a platform where hearing and speech impaired people can communicate even via video calls. The proposed system translates Indian sign language (ISL) into text for the hearing-impaired user while for the normal user, and it converts the speech into text. It also helps hearing-impaired people to communicate with Google Voice Assistants without having voice making it a smart assistant.

Keywords

Hand gesture recognition | Indian sign language (ISL) | Gesture to speech | Speech-to-text | Hearing impaired

Blockchain: A Solution for Improved Traceability with Reduced Counterfeits in Supply Chain of Drugs

Pallavi Saindane ; Yogita Jethani ; Puja Mahtani ; Chirag Rohra ; Piyush Lund All Authors

Abstract:
The following topics are dealt with: electric drives; mathematical analysis; power transformers; electric motors; aircraft power systems; failure analysis; energy conservation; power engineering computing; petroleum industry; neural nets.

Published in: 2020 International Conference on Electrotechnical Complexes and Systems (ICOECS)

Date of Conference: 27-30 Oct. 2020

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ISBN Information:
Electronic ISBN:978-1-7281-9116-4
Print on Demand(PoD)
ISBN:978-1-7281-9117-1

Publisher: IEEE

Conference Location: Ufa, Russia

I. Introduction

According to a study by the World Health Organization (WHO), more than 100,000 deaths a year in Africa are due to improper dosing from counterfeited drugs ordered from unknown or untrusted vendors [1], [2]. The actors involved in the pharmaceutical supply chain cannot completely guarantee the authenticity of drugs because ownership of drugs changes continuously in the supply chain, secondly as supply chain does not connect the physical and information flows ug is exactly at any particular moment which is untraceable most of the time and hence for drugs regulatory authorities traceability of drugs is quite costly practice. Hence patients at the end are the victims of any counterfeit drugs supplied. Thus one of the major reasons for the drug's

Performance Evaluation of Different Machine Learning Techniques using Twitter Data for Identification of Suicidal Intent

Publisher: IEEE

Cite This

PDF

Anirudh Ramachandran ; Akshara Gadwe ; Dishank Poddar ; Saurabh Satavalekar ; Sunita Sahu All Authors

Abstract:
Rise of Social media influence has brought about immense changes in the way a person lives their life. Sharing thoughts, ideas and expression over a public platform gives a deep insight into the person's state of mind commonly coined as online behaviour. Research and Evaluation based on online behaviour have been conducted repeatedly. Using machine learning, this online trail of data that a person leaves behind can be used to gain insights on the behaviour and psychological status. In this paper, different machine learning techniques have been used, studied and gauged their effectiveness for suicidal tendency detection to prove that Machine Learning Algorithms like Logistic Regression can correctly identify residingresiding Suicidal Tendency of a Twitter user.

Published in: 2020 International Conference on Electronics and Sustainable Communication Systems (ICESC)

Date of Conference: 2-4 July 2020

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Print on Demand(PoD) ISBN:978-1-7281-4109-1

INSPEC Accession Number: 19877032

DOI: 10.1109/ICESC48915.2020.9155747

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Suicide has always had its position amongst the top 10 causes of death all over the world. It was estimated by the World Health Organisation (WHO) that every year approximately one million people committed suicide, which brings the mortality rate to 16 people per 100,000 or one death every 40 seconds [1]. It is predicted that the suicide

Emerging Technologies in Data Mining and Information Security pp 143-153 | Cite as

Stress Detection of Office Employees Using Sentiment Analysis

Authors Authors and affiliations

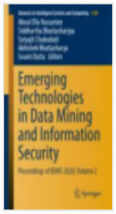
Sunita Sahu, Ekta Kithani, Manav Motwani, Sahil Motwani, Aadarsh Ahuja

Conference paper
First Online: 05 May 2021

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1300)

Abstract

Due to the increasing competition in the industry, companies demand more work hours from employees, and employees take a lot of stress in completing their deadlines. Now with the existing deadline stress, they also face problems like family problems, low motivation, discrimination, politics, etc., which bring the extra negative stress that harms the productivity and mental peace of employees. To reduce workplace stress among the employees and increase productivity, there is a need for a system to identify the stress level so that remedial action can be taken beforehand. In this paper, we have proposed a method to detect the seven emotions (angry, disgust, happy, sad, fear, surprise, neutral) of employees at the workplace using facial expressions from the Web camera of their computers and sentiment analysis on the monthly reviews provided by the employees using natural language processing to calculate the stress level, and stress level is also calculated using the answer provided by the employee to the question "How was your day?" at the end of each day and generate a report for the human resources (HR) of the company who will analyze the stress level of the employees. HR can talk to them, counsel them, and help them which will ultimately motivate employees to do quality work.



Emerging Technologies in Data Mining and Information Security pp 767-775 | Cite as

Detection of Depression and Suicidal Tendency Using Twitter Posts

Authors Authors and affiliations

Sunita Sahu, Anirudh Ramachandran, Akshara Gadwe, Dishank Poddar, Saurabh Satavalekar

Conference paper
First Online: 05 May 2021

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1300)

Abstract

It was established that between 1987 and 2007, the suicide rate burgeoned from 7.9 to 10.3 per 100,000, with higher suicide rates in southern and eastern states of India. India does not only face the fear of suicide but also of depression. A study reported in the World Health Organization (WHO), conducted for the National Care Of Medical Health (NCMH), states that at least 6.5% of the Indian population suffers from some form of the serious mental disorder, with no discernible rural–urban differences. The key challenge of suicide and depression prevention is understanding and detecting the complex risk factors and warning signs that may precipitate the event. In this project, we present an approach that uses the social media platform to quantify suicide-warning signs for individuals, to evaluate a person's mental health and to detect posts containing suicide-related content. The pivot point of this approach is the automatic identification of sudden changes in a user's online behaviour. To detect such changes, we combine natural language processing techniques to aggregate behavioural and textual features and pass these features through a martingale framework, which is widely used for change detection in data streams.

Keywords

Data Mining based Researcher's Hub:An Online Platform for Searching and Booking Research Instruments

Publisher: IEEE

Cite This

PDF

Akash Magdum ; Hritvik Pawar ; Saurav Ubarhande ; Sunita Sahu All Authors

Abstract:
The research ecosystem in India is at a developing stage. This ecosystem provides researchers with the benefit of greater career flexibility, better feedback on their work and improved reproducibility. Many organizations are keeping no stone unturned to develop this ecosystem. But still, there is a kind of unawareness among researchers regarding the availability of research facilities, instruments, techniques, etc needed for the development of their research work. In this paper, a system/ platform is proposed which will assist scientists, researchers, users from National R&D laboratories and industries to book slots for specific instruments available in research centers all over India to take samples. Users who want to rent their research instruments for offering sampling service can also avail the services of this platform. The platform will help small educational institutions and industries to overcome their inability to procure and maintain research and analytical instruments.

Published in: 2020 Second International Conference on Inventive Research in Computing Applications (ICIRCA)

Date of Conference: 15-17 July 2020

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Print on Demand(PoD) ISBN:978-1-7281-5375-9

INSPEC Accession Number: 19913453

DOI: 10.1109/ICIRCA48905.2020.9183208

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

The reason for the decline of science in India is the lack of experimentation as part of learning science. Owing to the segregation of teaching and research in our country, many students who were interested in some research field were unable to explore it. There is a lack of awareness of the research facilities for the students and industrialist researchers. To solve this issue on joining a pool of premier institute research centers to a single platform are being worked out so that many researchers get aware of the opportunities and utilize the facilities provided by these centers across the country. Due to this

Emerging Technologies in Data Mining and Information Security pp 233-242 | Cite as

AIDE—AI and IoT-Enabled Home Automation for Disabled and Elderly

Authors Authors and affiliations

Sunita Sahu, Smruti Kshirsagar, Srushti Sachdev, Navjyot Singh, Anushka Tiwari

Conference paper
First Online: 29 June 2021

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1286)

Abstract

Home automation is a field that is becoming progressively relevant in our day-to-day lives. The market has several such systems for conventional households but none of those is aimed at aiding the differently-abled users. This paper presents a glove-based system that allows the disabled and the elderly to control devices with gestures. Simultaneously, it allows their caretakers and family members to monitor their behavior through a mobile application. The aim is to provide those who are physically challenged with assistance in their quotidian tasks and providing caretakers with the comfort of knowing their whereabouts and activities. The application displays the device logs and patient's activities such as sitting, standing, lying down and walking. Classification of human activity is done using accelerometer data and creating a Long Short-Term Memory (LSTM) neural network model on these data. There is also a fall

Analyzing and Enhancing Communication Platforms available for a Deaf-Blind user

Publisher: IEEE

Cite This

PDF

Sartha Tambe ; Yugchhaya Galphat ; Nilesh Rijhwani ; Aishwarya Goythale ; Janhvi Patil All Authors

Abstract:
When it comes to living in a modern world with lots of technology around you the physically-disabled people face a lot of problems while communicating with the world and using this available technology. This paper explores the current research effort towards building user friendly application that connects two normal people, deaf and dumb, blind and deaf people together. Nowadays there are many applications available when it comes to hearing and visually impaired but every application has a certain limit till now. The work includes three approaches viz. a voice, text and video based input-output interaction. When it comes to deaf and dumb communication, the model to learn sign language was implemented and there was conversion of Indian Sign Language into the text. When it comes to communication between the deaf-blind users, Morse code the language of dash, spaces and dots has always been an effective communication tool. Also in some of the processes, there is use of image to text and text to speech conversion. All the work focuses on how these techniques were developed and available to implement and their effectiveness at the same time. It also provides different ways for the visually and hearing impaired to communicate by converting the texts as voice signals and morse code signals. This paper also proposes and explores another method that can be implemented for a full-fledged interaction between visually and hearing impaired without any limitations and the work depends on Morse code, translations such as Morse code to text, speech and vice-versa.

Published in: 2020 IEEE International Symposium on Sustainable Energy, Signal Processing and Cyber Security (iSSSC)

Date of Conference: 16-17 Dec. 2020

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ISBN:978-1-7281-8881-2

INSPEC Accession Number: 20491463

DOI: 10.1109/iSSSC50941.2020.9358823

Publisher: IEEE

Conference Location: Gunupur Odisha, India

I. Introduction

Whenever we talk about communication, It is all about exchanging information by speaking, writing or in some other form but when talking about physically disabled people they are always left behind to be a part of this exchange [1]. According to a survey given by the WHO (World Health Organization) there are over 4,660 lakh people around the world that are hearing impaire[d] [a]re visually impaired is over 2,850 lakhs. To find a medium of communication between normal, visually impaired and partially or fully hearing-impaired people is very important. Just like ordinary people it

Computer Science > Computers and Society

[Submitted on 13 Jul 2020]

Stutter Diagnosis and Therapy System Based on Deep Learning

Gresha Bhatia, Binoy Saha, Mansi Khamkar, Ashish Chandwani, Reshma Khot

Stuttering, also called stammering, is a communication disorder that breaks the continuity of the speech. This program of work is an attempt to develop automatic recognition procedures to assess stuttered dysfluencies and use these assessments to filter out speech therapies for an individual. Stuttering may be in the form of repetitions, prolongations or abnormal stoppages of sounds and syllables. Our system aims to help stutterers by diagnosing the severity and type of stutter and also by suggesting appropriate therapies for practice by learning the correlation between stutter descriptors and the effectiveness of speech therapies on them. This paper focuses on the implementation of a stutter diagnosis agent using Gated Recurrent CNN on MFCC audio features and therapy recommendation agent using SVM. It also presents the results obtained and various key findings of the system developed.

Comments: About stutter classification, severity diagnosis and therapy recommendation

Subjects: **Computers and Society (cs.CY)**; Computer Vision and Pattern Recognition (cs.CV); Machine Learning (cs.LG); Sound (cs.SD); Audio and Speech Processing (eess.AS)

Cite as: arXiv:2007.08003 **[cs.CY]**

(or arXiv:2007.08003v1 **[cs.CY]** for this version)

Submission history

From: Mansi Khamkar [view email]

[v1] Mon, 13 Jul 2020 10:24:02 UTC (553 KB)

Stutter Diagnosis and Therapy System

Based on Deep Learning

Dr. Mrs. Gresha Bhatia[1], Binoy Saha[2] , Mansi Khamkar[3], Ashish Chandwani[4] , Reshma Khot[5]

Deputy HOD, CMPN department,Vivekanand Education Society's Institute of Technology (V.E.S.I.T),Chembur, Mumbai, India [1]

Student of Computer Engineering ,VESIT, India [2 3 4 5]

ABSTRACT — Stuttering, also called stammering, is a communication disorder which breaks the continuity of the speech. This program of work is an attempt to develop automatic recognition procedures to assess stuttered dysfluencies and use these assessments to filter out speech therapies for an individual. Stuttering may be in the form of repetitions, prolongations or abnormal stoppages of sounds and syllables. Our system aims to help stutterers by diagnosing the severity and type of stutter and also by suggesting appropriate therapies for practice by learning the correlation between stutter descriptors and effectiveness of speech therapies on them. This paper focuses on implementation of stutter diagnosis agent using Gated Recurrent CNN on MFCC audio features and therapy recommendation agent using SVM. It also presents the results obtained and various key findings of the system developed.

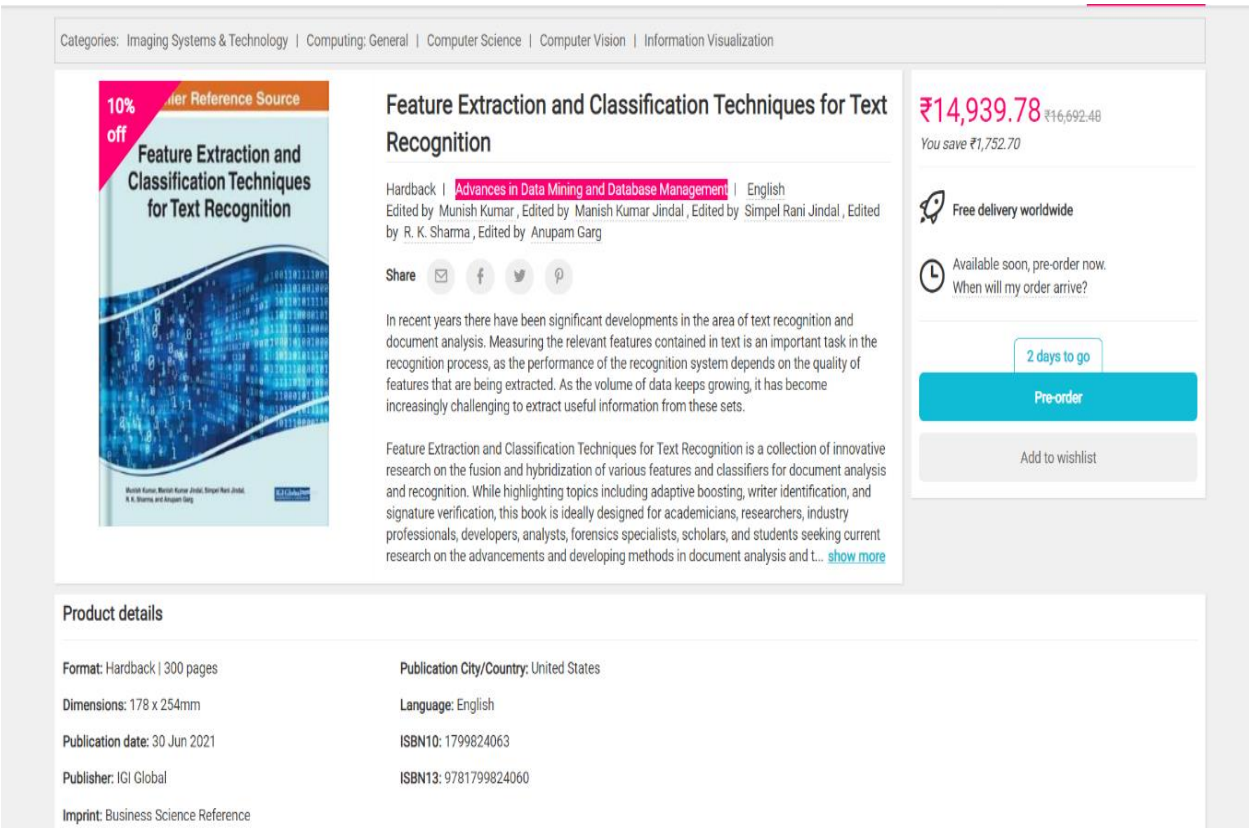
KEYWORDS - Stutter diagnosis, Stuttering therapy, Stutter measurement, Speech dysfluency, Mel-frequency Cepstral Coefficients (MFCC), CNN, Gated Recurrent Units (GRU), Support Vector Machine (SVM).

I. Introduction

Stammering or stuttering is a disorder of speech which badly affects the speech fluency of the person. There are stoppages and disruptions pauses which interrupt or disturbs the fluency of speech. Stuttering may be in the form of repetitions of sounds, syllables or words - like saying mo-mo-mobile. There may also be prolonged sounds - like saying mmmmmmmobile. Sometimes no sound is heard due to silent blocking. Stuttering interferes with work and social life of an individual and often brings tremendous emotional suffering. According to research, more than 70 million people in the world stutter. Stuttering therapy includes various treatment methods that are used to reduce stuttering to some degree in an individual. Generally in stuttering detection process speech is recorded and disfluencies like repetitions, prolongation, interjection are identified. Then the disfluencies that occur are counted, according to that severity of stuttering is determined. Speech therapists use different approaches such as Lidcombe approach, stuttering modification, fluency shaping, Modifying Phonation Intervals (MPI), psychological therapies, and auditory feedback devices to treat stuttering and often combine several methods to meet individual needs. While it is difficult to eliminate stuttering, speech therapy helps the majority of children and adults to palliate its severity. According to the survey 84% people experienced improvement in fluency of speech. Also few adults (73 out of the surveyed people) have used assistive speech fluency devices, but they did not work well for more than 52% of them. [1][2]

A. Problems

Private speech therapy is costly and not affordable for most families living in the poorer districts. The lack of education and training about the disorder of stuttering by professional adults, including speech therapists, doctors and educators, has tragic results. The speech therapy needs to be intense for two/three months and there needs to be a maintenance phase that is extended over a period of one year minimum so stutters have to visit the therapy centre each time. There is no way to judge the effectiveness of the homework given to stutters but it is very important because most of the people stutter in real world situations. Also the judgements made by one Speech Lab Pathologist (SLP) may differ from the judgements made by another SLP. The speech therapies are given randomly by the SLPs as there is no proper way to customize them by assessing the effectiveness of the therapies. [2][3][4]



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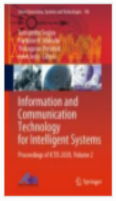


International Conference on Information and Communication Technology for Intelligent Systems

ICTIS 2020: Information and Communication Technology for Intelligent Systems pp 681-688 | Cite as

Coreveillance—Making Our World a "SAFER" Place

Authors Authors and affiliations

C. S. Lifna ✉, Akash Narang, Dhiren Chotwani, Priyanka Lalchandani, Chirag Raghani

Conference paper

First Online: 30 October 2020

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 196)

Abstract

The culture in our civic society has undergone an abrupt change due to the extensive use of CCTV surveillance. Currently, our urban society is exclusively dependent upon CCTV footage for divulging any abnormal situation. This scenario has given rise to new openings for the researchers to judiciously utilize video analytics techniques to focus on many sensitive issues in society such as contravention of human rights (HR). The purpose of this paper is to design a surveillance platform equipped with situation intelligence to aid government and non-government working departments in taking corrective action against unfavorable intruders and destructive mishaps.

Keywords

Video analytics | CCTV surveillance | Smart society | Intrusion detection | Vandalism | Anomaly detection | Convolutional neural network

The authors gratefully acknowledge the support extended by University of Mumbai as Minor Research Project Grant No. 960 (Circular No. APD/ICD/2019-20/762 dated.

Proceedings of International Conference on Computational Intelligence, Data Science and Cloud Computing pp 185-195 | Cite as

Size Invariant Ship Detection Using SAR Images

Authors Authors and affiliations

Atharva Potdar, Parth Kingrani, Rahul Motwani, Tanishqa Shetty, Shalu Chopra

Conference paper
First Online: 06 April 2021

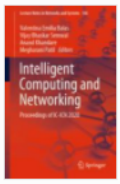
Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 62)

Abstract

Synthetic aperture radar also is known as SAR imagery is considered a very essential source of data for overlooking maritime or naval activities, and its application towards oil spills and ship detection has been a crucial centre of many going on exploration works. Many object detection methods including conventional and deep learning have been contemplated. But, most of them have tremendous computational overloads and are vastly inaccurate. The proposed system is implemented by using a Python web framework Flask, Tensor flow for training the deep learning model, and a database called SQlite3 as a backend for downloading the saved images. The research work undertaken assists the end-user to monitor the activities of the ships, measuring their dimensions, and thus preventing potential mishaps.

Keywords

Deep learning SAR images Tensor flow object detection Neural network



Intelligent Computing and Networking pp 27-39 | Cite as

Secured Crowdfunding Platform Using Blockchain

Authors Authors and affiliations

Megha Sahu, Ashish Gangaramani, Asha Bharambe

Conference paper
First Online: 23 October 2020

Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 146)

Abstract

Crowdfunding is a platform can be used to collect small amount from large number of people. In Traditional platform it is not easy to track the usage of the fund. Hence campaign creator can use money for their own need.This paper proposes a solution on how to prevent such fraud in crowdfunding platforms using blockchain and smart contracts. The main aim of this solution is to propose a solution that can reduce those effects. The important feature of Blockchain is that it maintains transparency among the nodes in the network. We are proposing a solution keeping this feature in mind to implement campaign as smart contracts designed for crowdfunding websites where campaign managers will need to get approval based for their requirements from backers. The proposed solution has been implemented using Ethereum and tested on Rinkeby Network.

Keywords

Smart contract Backer Campaign Campaign creator/manager Rinkeby network Metamask

Consumer Behavior Analytics using Machine Learning Algorithms

Vishwa Shrirame ; Juyee Sabade ; Hitesh Soneta ; M Vijayalakshmi All Authors

Abstract:
User-generated content in the form of reviews, ratings, and comments can be analyzed for greater insights for enterprise use. The analysis of such consumer behavior is helpful to understand the consumer's requirements and predict their future intentions towards the service. Through this cognitive study, E-commerce Organizations can track the usage and sentiments attached to their products and take appropriate marketing approaches to provide a personalized shopping experience for their consumers, thereby increasing their organizational profit. This paper aims to employ data-driven marketing tools, such as data visualization, natural language processing, and machine learning models that help in understanding the demographics of an organization. We also build recommender systems through collaborative filtering, neural networks, and sentiment analysis.

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Publisher: IEEE

Conference Location: Bangalore, India

I. INTRODUCTION

The use of E-commerce has vastly increased in this modern technological age. People prefer to shop online rather than shop in markets. In e-commerce, the data generated by consumers in the form of ratings and reviews of a particular product can be used as a means of authenticity and publicity of the product. Consumers decide on whether to buy

Proceedings of International Conference on Intelligent Computing, Information and Control Systems pp 107-116
| Cite as

Companion: Detection of Social Isolation in Elderly

Authors Authors and affiliations

Gayatri Belapurkar, Athul Balakrishnan, Rajpreet Singh Bhengura, Smita Jangale

Conference paper
First Online: 25 January 2021

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1272)

Abstract

Elderly isolation is one of the very important issues prevalent in society. Elderly of various communities find it easier to relate to someone of the same age group and communicate with them. There are a number of elderly people who have no one to talk to in their homes, social circle or society. This gradually leads to social isolation which in turn may give rise to depression and/or even suicide. Our system proposes a solution to this problem using data analysis techniques together with the concepts of psychology. The aim is to do so by bringing like-minded people together and forming a group. The collection of points as to why they feel socially isolated is important data in trying to solve the issue. The application goes one step further and suggests cultural gatherings or get-togethers nearby based on their interests, which can act as potential spots for meeting new people and making new friends. This can help decision-makers monitor the mental health of the elderly and help them lead a better life.

Keywords

Social isolation | Lubben Social Network Scale | Machine learning | Community detection | K-means clustering | Collaborative filtering | Content-based filtering

Implementing Electronic Voting System With Blockchain Technology

Publisher: IEEE Cite This PDF

Abhishek Kaudare ; Milan Hazra ; Anurag Shelar ; Manoj Sabnis All Authors

Abstract:
Elections and voting are the basic mechanisms of a democratic system. There have been various attempts to make modern elections more flexible by using digital technologies. Basic characteristics of free and fair elections are intractability, immutable, transparency and the privacy of the involved actors. This corresponds to a few of the many features of blockchain-like decentralized ownership, the immutability of chain, anonymity and distributed ledger. This work-in-progress paper attempts to do a comparative analysis of various blockchain technologies under development and propose a `Blockchain based Electronic Voting System' solution by weighing these technologies based on the need for the proposed solution. The main aim of this paper is to present a robust blockchain-based election mechanism that not only will be reliable but also flexible according to present needs.

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INSPEC Accession Number: 19887625

DOI: 10.1109/INCET49848.2020.9154116

Publisher: IEEE

Conference Location: Belgaum, India

I. Introduction

This paper considers the Indian Election System for study and tries to propose a solution for the Indian Election System by limiting the scope. The most important principle that defines an election is that they must represent the free expression of the will of the people. This kind of expressio

re accountable

Sentiment Analysis using Deep Learning - A survey

Sneha Sukheja ; Shalu Chopra ; M. Vijayalakshmi All Authors

Abstract:
Opinion Mining and Sentiment analysis on textual data are widely carried out. The main aspect is what techniques we use to accentuate the performance of these models. In this paper, we are going to perform multi-class sentiment analysis using Deep Learning models like Long Short Term Memory (LSTM) and C-LSTM on textual data and compare its performance. We also see its results as compared to other Machine Learning models. Performance evaluation technique like parameter tuning using Dropout regularization is carried out to analyze its effect on the accuracy of the model. The models were also trained using three different datasets for observing the results.

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INSPEC Accession Number: 19734684

DOI: 10.1109/ICCSEA49143.2020.9132863

Publisher: IEEE

Conference Location: Gunupur, India

I. Introduction

In this tech-savvy world, people have abundant access to social media. People convey their views and opinions using social media platforms. The data generated by the users every day is in massive amounts. The source of the data may be different. If a person wants to buy a product or wants to use any service, then he/she will first look upon its reviews online. Before making any decision, he/she might as well discuss it with other

Snake Species Identification and Recognition

Mrugendra Vasmatkar ; Ishwari Zare ; Prachi Kumbla ; Shantanu Pimpalkar ; Aditya Sharma All Authors

Abstract:
Snake Species Identification is a challenge as erroneous snake identification from the perceptible traits is a prime reason of death because of snake bites. The main objective of the proposed system is to be able to identify snake species from their visual traits in order to provide suitable treatment, thus preventing subsequent deaths. The proposed system involves techniques based on Image Processing, Convolution Neural Networks and Deep Learning to achieve the mentioned purpose. CNN has been highly used in automatic image classification system. In most cases, extracting features and utilizing them for classification. Deep learning successfully achieves recognition of objects in images as it is implemented using artificial neural networks. Image classification tasks have seen a rise with the introduction of deep learning techniques. So far, no automated method for classification has been suggested to categorize snakes. The system that would be developed will be useful to recognize snake species correctly and thus take necessary action.

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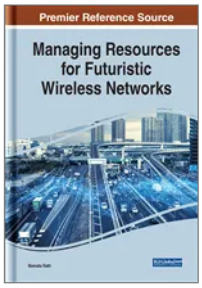
Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

The WHO report states that around 5.4 million people suffer from snake bites annually, causing 1.8 to 2.7 million cases of envenomings(poisoning). Despite the many efforts, automated snake species recognition is a challenging task because of the similarities in



Clustering and Compressive Data Gathering for Transmission Efficient Wireless Sensor Networks

Utkarsha Sumedh Pacharaney (Datta Meghe College of Engineering, India), Ranjan Bala Jain (Vivekanand Education Society's Institute of Technology, India) and Rajiv Kumar Gupta (Terna Engineering College, University of Mumbai, India)

Source Title: Managing Resources for Futuristic Wireless Networks
Copyright: © 2021 | Pages: 28
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Abstract

The chapter focuses on minimizing the amount of wireless transmission in sensory data gathering for correlated data field monitoring in wireless sensor networks (WSN), which is a major source of power consumption. Compressive sensing (CS) is a new in-node compression technique that is economically used for data gathering in an energy-constrained WSN. Among existing CS-based routing, cluster-based methods offer the most transmission-efficient architecture. Most CS-based clustering methods randomly choose nodes to form clusters, neglecting the topology structure. A novel base station (BS)-assisted cluster, spatially correlated cluster using compressive sensing (SCC_CS), is proposed to reduce number of transmissions in and form the cluster by exploiting spatial correlation based on geographical proximity. The proposed BS-assisted clustering scheme follows hexagonal deployment strategy. In SCC_CS, cluster heads are solely involved in data gathering and transmitting CS measurements to BS, saving intra-cluster communication cost, and thus, network life increases as proved by simulation.

Table of Contents

Chapter 2
Clustering and Compressive Data Gathering for Transmission Efficient Wireless Sensor Networks

Utkarsha Sumedh Pacharaney
Datta Meghe College of Engineering, India

Ranjan Bala Jain
Vivekanand Education Society's Institute of Technology, India

Rajiv Kumar Gupta
Terna Engineering College, University of Mumbai, India

ABSTRACT

The chapter focuses on minimizing the amount of wireless transmission in sensory data gathering for correlated data field monitoring in wireless sensor networks (WSN), which is a major source of power consumption. Compressive sensing (CS) is a new in-node compression technique that is economically used for data gathering in an energy-constrained WSN. Among existing CS-based routing, cluster-based methods offer the most transmission-efficient architecture. Most CS-based clustering methods randomly choose nodes to form clusters, neglecting the topology structure. A novel base station (BS)-assisted cluster, spatially correlated cluster using compressive sensing (SCC_CS), is proposed to reduce number of transmissions in and form the cluster by exploiting spatial correlation based on geographical proximity. The proposed BS-assisted clustering scheme follows hexagonal deployment strategy. In SCC_CS, cluster heads are solely involved in data gathering and transmitting CS measurements to BS, saving intra-cluster communication cost, and thus, network life increases as proved by simulation.

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Automated Crowd Management in Bus Transport Service

Achanta V Meghana ; Vedant Sarode ; Dhananjay Tambade ; Abhidnya Marathe ; Nadir Charniya All Authors

Abstract:
Crowd Management in Bus Transport Service provides an easy way to know about the live crowd density present inside the bus to the commuters present at the upcoming bus stop. This paper presents an Automated Crowd Management System using the algorithms of Machine Learning and IoT Technologies. The crowd density is detected inside the bus and is classified in to 5 different levels which will eventually be displayed on the LCD screen at the bus stop. The proposed system has an accuracy of 93.09% and the time required to transmit the crowd density to the bus stop is just a few seconds. This thus, provides commuters with a safe journey and helps them know about the live crowd density in a particular bus and help them plan accordingly as to which bus to board or look for an alternative mode of transport.

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I. Introduction

In case of public transports, it is usually noticed that some of the buses are overcrowded and at the same time some of

y are heading towards

Optimal Bipolar Lead Placement in Electrooculography (EOG): A Comparative Study with an Emphasis on Prolonged Blinks

Publisher: IEEE

Raj Anchan ; Ashwin Pillay ; Aditya Kale ; Aniket Bhadricha ; Sangeetha Prasanna Ram All Authors

Abstract:
Electrooculography (EOG) is the measurement of potentials generated by the ocular muscle family during the exhibition of various eye movements. Such potentials initially sensed using electrodes placed at specific positions around the eyes, are conditioned for detection and analysis of these movements. However, the characteristics of EOG signals obtained substantially depend on the electrode placement. In this paper, a 3-electrode EOG setup was used to compare among 30 lead configurations enveloping different ocular muscles by studying their idiosyncrasies. For each combination, signals were acquired for a fixed set of eye movements executed by the same subject; including prolonged-blinks, a characteristic feature of drowsiness. A summary of the leads that would be favorable for the detection of each movement is then presented. Furthermore, such readings were recorded separately for different reference electrode positions to compendiously determine the optimal electrode placement for the detection of EOG signals corresponding to drowsiness.

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Publisher: IEEE

Conference Location: Kharagpur, India

I. Introduction

Eyes are organs that can represent both the aware and oblivious state of the mind. Eye movements are controlled by ocular muscles that obtain signals from the brain for voluntary movements such as fixating on and tracking stimuli as well as involuntary movements which may be based on emotions among other factors. Some common voluntary eye movements include rightward gaze, upward gaze and so on while involuntary eye movements include blinks, the sudden closure of eyes due to brightness, etc. One such eye movement includes blinks of prolonged duration (prolonged blinks)

Application of Extension of Unscented transformation technique to the nonlinear case of error propagation

Sangeetha Prasanna Ram ; Jayalekshmi Nair ; S Ganesan All Authors

Abstract:
Error propagation of a random variable for a case of large uncertainty and nonlinearity is studied, for the first time, using the extended unscented transformation technique (EUT), which is an extension of the unscented transformation (UT)technique, by revisiting an example studied in the literature by Smith, Neudecker, and Capote-Noy (Report INDC NDS-0709, 2016). In this example, the first four moments of a nonlinear transformation of a random variable of single dimensionality are determined, using extended unscented transformation technique and compared with 500000 histories of the Monte Carlo (MC) method. It is observed that the EUT method is in better agreement with results obtained using the MC method and superior to the UT method which has been applied by the authors in their earlier papers.

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Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction (Heading 1)

Error propagation is the effect of errors or uncertainties in the input variables on the uncertainty of the function which is based on them. Error propagation techniques help in estimating the error in the out[redacted]put variables based on

Deep Learning Based Face Mask Detection and Crowd Counting

Publisher: IEEE

Prithvi N. Amin ; Sayali S. Moghe ; Sparsh N. Prabhakar ; Charusheela M. Nehete All Authors

Abstract:
Without any uncertainty, the COVID-19 pandemic has set the world to a stop. The infection is spreading rapidly and could be a peril to the human race. Seeing the prerequisite of the hour, one needs to continuously make certain safeguards of that one being wearing a mask in any way at all times. To make a secure environment that leads to open safety, we propose a proficient learning and computer vision based approach concentrated on the real-time robotized observation of individuals to find unmasked faces in open areas. Subsequently, the recommended solution favors the society by sparing time and helps in bringing down the spread of coronavirus. It can be implemented successfully when lockdown is lifted completely bringing about people in open get-togethers, shopping centers, etc.. Automated inspection will reduce manpower to oversee the public and can also be used in any place.

Published in: 2021 6th International Conference for Convergence in Technology (I2CT)

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Publisher: IEEE

Conference Location: Maharashtra, India

I. Introduction

Coronavirus is an infectious disease caused by the coronavirus-2 intense acute respiratory syndrome. According to the World Health Organization, as of 18 October 2020, over 40 million cases and 1.1 million deaths have been reported worldwide, with over 2.4 million new cases and 36,000 new deaths reported over the previous week

DeepSight: Land Use and Land Cover Classification Using Satellite Images

Sumedh Ghavat ; Parth Kodnani ; Harshita Singh ; Jayashree Hajgude All Authors

Abstract:
Remote Sensing data is constantly on the rise with launches of various satellites around the world, generating a huge amount of data. This data is raw i.e. it lacks semantics. Due to the lack of semantics, this data is untapped. To fully utilize this data, we propose a classification method based on deep learning, deployed as a web service- DeepSight. DeepSight uses a convolutional neural network- SpectrumNet to effectively classify land use and land cover. After training the model over 27,000 images, an accuracy of 96.3% is achieved for the testing set whereas the validation set gives us an accuracy of 95.1%. Thus, the results show a fairly high accuracy rate of classifying the multi-spectral images and this can be further used by multiple domains requiring Remote Sensing data semantics relating to land use and land cover.

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I. Introduction

There is a bloom in the volume of remote sensing (RS) data and it is constantly increasing. In particular, with launches of Sentinel-I, Sentine1-2, Proba-V and LandSat-8 satellites, there will be generated up to petabyte of raw images per year [3]. With access to such data, applications in the domains of climate change, environment, disaster

VR Photography Embedded Map With Grid based Indoor Positioning

Publisher: IEEE

Cite This

PDF

Shubham Darekar ; Jay Pakale ; Ninad Wadode ; Asha Bharambe All Authors

Abstract:
We propose a VR Photography embedded map construction specifically designed for the navigation of indoor places for various surrounding conditions and different terrains. A broad variety of mapping and navigation systems are unusable in indoor places due to the intricate details that are needed for navigating small places. They also fail because of inaccuracy to small distances due to not being able to map these regions. Also, navigation in these places needs location data which can distinguish position to highly smaller distances. We present a system that can construct a map of an indoor place based on its images or videos and a navigation system that can accurately help in any kind of indoor place irrespective of the surrounding. This navigation system is built on a grid based system that has a position estimator model trained with data from each block of the grid and can specifically locate the position of each such block.

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DOI: 10.1109/INCET51464.2021.9456181

Publisher: IEEE

Conference Location: Belagavi, India

I. Introduction

Most of today's positioning systems have technologies like Global Positioning System

Innovative Data Communication Technologies and Application pp 571-582 | Cite as

A Survey on Recent Advances in Cyber Assault Detection Using Machine Learning and Deep Learning

Authors Authors and affiliations

Piyusha S. Pakhare, Shoba Krishnan, Nadir N. Charniya

Conference paper
First Online: 03 February 2021

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 59)

Abstract

Cyber attacks hit companies, businesses, and common people every day. Cybercrime is increasing year by year as criminals that are trying to benefit from vulnerable sources. Software attacks are very difficult to detect as it hides in a very sophisticated way on the network. This survey paper gives a review of various machine learning (ML) methods used to detect different attacks. Several methods/architectures developed by researchers to detect cybercrimes using deep learning and machine learning techniques of classification are also discussed. It can be seen that machine learning and deep learning models are efficient in detecting cybercrimes with high accuracy when proper training is given.

Keywords

Cyber attacks Supervised learning Unsupervised learning Deep learning

Computer Networks, Big Data and IoT pp 839-850 | Cite as

Malicious URL Detection Using Machine Learning and Ensemble Modeling

Authors Authors and affiliations

Piyusha Sanjay Pakhare, Shoba Krishnan, Nadir N. Charniya

Conference paper

First Online: 22 June 2021

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 66)

Abstract

Websites are software applications that allow us to connect and interact with the data located in the web servers. Websites allow the user to capture, store, process, and exchange sensitive data like banking details and personal details. Web pages are accessed by merely entering the required URL in the browser. To prevent sensitive information from users, the attackers/hackers make duplicate websites and send them to victims through phishing emails. In this article, the machine learning framework is used to find malicious URLs. Here, five different machine learning algorithms such as the logistic regression algorithm, K-nearest neighbor algorithm, decision tree algorithm, random forest algorithm, and support vector machine algorithm have been used. An ensemble modeling has been done using these algorithms, and the performance of each algorithm has been compared.

Keywords

Artificial Neural Network-based Detection of Diabetes and its Effects on Vision - A survey

Publisher: IEEE

Cite This

PDF

Akanksha U. Naik ; Ramesh K. Kulkarni All Authors

Abstract:
Millions of people are suffering from diabetes, making it a primary health issue now-a-day. International Diabetes Federation mentioned a fact about Diabetes is that there are about 46.5% of adults whose diabetes is undiagnosed. Once the diabetes is detected and if it is not cured for a longer period then it can mainly affect on eyes, kidneys, skin and heart. In this survey, the effects of diabetes on human eyes are mainly considered. Diabetic retinopathy is the common eye disease which damages the retina resulting in permanent blindness. Detection in an early stage is essential to save the person's vision. It also reduces the workload of ophthalmologist in detection of Diabetic Retinopathy. The paper presents the comparison of SVM, ANN and CNN in diagnosing the lesion of the diabetic.

Published in: 2020 5th International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 10-12 June 2020

Date Added to IEEE *Xplore*: 10 July 2020

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INSPEC Accession Number: 19856486

DOI: 10.1109/ICCES48766.2020.9138057

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Nowadays many people worldwide are deteriorated from diabetes. Diabetes is an addictive or incurable disease in which pancreas is unable to produce a good amount of

Convolutional Neural Network for Diabetic Retinopathy Detection

Publisher: IEEE

Cite This

PDF

Shital N. Firke ; Ranjan Bala Jain All Authors

Abstract:
The world's projected blind population will reach 40 million by 2025. A modern fundus-based algorithm that approves the classification of retinal tissue needs to be improved in the early stages of healthy and diabetic retinopathy. In this experiment, we have introduced a convolution neural network approach to detecting diabetic retinopathy. We used the publicly accessible Apatos Blindness Detection database to train a convolution neural network, where the image is processed at an early stage, primarily involving image resizing, pixel rescaling, and label encoder. After that, an image is given to the convolution neural network model, to decide whether the patient has diabetic retinopathy or not. About 3789 color retinal images are used in experiments to train the proposed model and about 948 images are collected to test its efficiency in classification. Accuracy of 96.15\%, Sensitivity 79\%, Precision 89\%, and F1-Score 84.1\% and Area Under Score 0.82 is achieved using the Convolution Neural Network-based method.

Published in: 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS)

Date of Conference: 25-27 March 2021

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INSPEC Accession Number: 20610948

DOI: 10.1109/ICAIS50930.2021.9395796

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Diabetes is the biggest issue being suffered by the world today. According to a World Health Organization survey, the global incidence of diabetes was 2.8\% in 2000 and by 2030 current statistics will rise

effect of a retina blood vessel (BV) is diabetic retinop fuzzy sight, irregular sight, vitiated sight, vacant areas in sight, and difficulty seeing at night are perfect symptoms of DR [2].

Comparison of Pre-Trained Models Using Transfer Learning for Detecting Plant Disease

Publisher: IEEE

Bincy Chellapandi ; M. Vijayalakshmi ; Shalu Chopra All Authors

Abstract:
Artificial Intelligence has been proving a great boon in almost all the sector of industries. In recent times the demand for food has increased, whereas the supply still lacks. In order to meet these increasing demands, prevention and early detection of crop disease are some of the measures that must be inculcated in farming to save the plants at an early stage and thereby reducing the overall food loss. In this paper, we use a deep learning-based model and transfer learning-based models to classifying images of diseased plant leaves into 38 categories of plant disease based on its defect on a Plant Village dataset. Eight pre-trained models namely VGG16, VGG19, ResNet50, InceptionV3, InceptionResnetV2, MobileNet, MobileNetV2, DenseNet along with the one self-made model were used in our study. We found that DenseNet achieves the best result on the test data with an accuracy of 99%.

Published in: 2021 International Conference on Computing, Communication, and Intelligent Systems (ICCCIS)

Date of Conference: 19-20 Feb. 2021

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ISBN:978-1-7281-8530-9

INSPEC Accession Number: 20633632

DOI: 10.1109/ICCCIS51004.2021.9397098

Publisher: IEEE

Conference Location: Greater Noida, India

I. Introduction

One of the key industries which provide humans with Food, Medicine, Raw Materials, and other necessities is Agric

economy, it is the sole

Sentiment Analysis using Deep Learning - A survey

Publisher: IEEE

Cite This

PDF

Sneha Sukheja ; Shalu Chopra ; M. Vijayalakshmi All Authors

Abstract:
Opinion Mining and Sentiment analysis on textual data are widely carried out. The main aspect is what techniques we use to accentuate the performance of these models. In this paper, we are going to perform multi-class sentiment analysis using Deep Learning models like Long Short Term Memory (LSTM) and C-LSTM on textual data and compare its performance. We also see its results as compared to other Machine Learning models. Performance evaluation technique like parameter tuning using Dropout regularization is carried out to analyze its effect on the accuracy of the model. The models were also trained using three different datasets for observing the results.

Published in: 2020 International Conference on Computer Science, Engineering and Applications (ICCSEA)

Date of Conference: 13-14 March 2020

Date Added to IEEE *Xplore*: 03 July 2020

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Electronic ISBN:978-1-7281-5830-3
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ISBN:978-1-7281-5831-0

INSPEC Accession Number: 19734684

DOI: 10.1109/ICCSEA49143.2020.9132863

Publisher: IEEE

Conference Location: Gunupur, India

I. Introduction

In this tech-savvy world, people have abundant access to social media. People convey their views and opinions using social media platforms. The data generated by the users every day is in massive amounts. The source of the data may be different. If a person wants to buy a product or wants to use any service, then he/she will first look upon its reviews online. Before making any decision, he/she might as well discuss it with other

Design and Construction of Programmable Time-to- Amplitude Converter

Publisher: IEEE

Aishwarya Salvi ; Kanchan Chavan ; Prakash Vaidya All Authors

Abstract:
A method of implementation of programmable time- to-amplitude converter is reported in this paper. It employs a 16-bit multiplying digital-to-analog converter which outputs a precise current equivalent to the digital code applied. An integrator circuit using an operational amplifier having a low input bias current with a very high-speed analog switch in its feedback is used that governs the charging and discharging of the ramp. The start and stop pulses are applied to this switch. As per the change in the digital code applied, the slope varies thus changing the time interval measurement range. The time in this case is programmable due to the incorporation of 16- bit multiplying DAC. The digital code provided to the digital-to-analog converter is through a graphical user interface developed using python 3.7 software. A teensy 3.6 board is used for PC interface and to generate required input code to digital- to-analog converter.

Published in: 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI)(48184)

Date of Conference: 15-17 June 2020

Date Added to IEEE *Xplore*: 17 July 2020

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Print on Demand(PoD) ISBN:978-1-7281-5519-7

INSPEC Accession Number: 19789198

DOI: 10.1109/ICOEI48184.2020.9142973

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Timing spectroscopy system includes the time measurement and spectrum relation between any two events. These events may be an alpha, beta, gamma rays or photons which approach the detectors. The method for the time measurement between two

Design and Construction of Low Cost High-Performance Transducer Signal Processing and Data Acquisition System

Harshal Katdare ; Nilima Warke ; Prakash Vaidya All Authors

Abstract:
In this paper, high performance transducer signal processing and 8 single ended channel Data Acquisition System (DAS) is proposed. Goal of designing system is to provide low cost, light weight, compact, high resolution and low noise interference data acquisition system (DAS). This system is designed using Open-source micro-controller ARM Cortex-M4 series processor TEENSY 3.6 board. Designed system acquires data more accurately with the resolution of 16-bits, real time data acquisition rate up-to 20KHz with user friendly Graphical User Interface (GUI). DAS has capacity of up-to 8 single ended channel input with user selectable channel sequence function.

Published in: 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI)(48184)

Date of Conference: 15-17 June 2020

Date Added to IEEE *Xplore*: 17 July 2020

ISBN Information:
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Print on Demand(PoD) ISBN:978-1-7281-5519-7

INSPEC Accession Number: 19789251

DOI: 10.1109/ICOEI48184.2020.9143044

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

In process plant, sensors are located far away from control room, measured physical parameters are transmitted using transmitter. Output of the transmitter is in form of current, to measure the current signal suitable for signal conditioning circuit is used. It converts transmitter output current signal into its proportional voltage form so signal is

Cancer Cell Detection using 2D Photonic Crystal

Publisher: IEEE

Cite This PDF

Karuna Gamare ; Ranjan Bala Jain All Authors

Abstract:
In this paper a fast, efficient and accurate method for the detection of a cancerous cell using Two-dimensional (2D) photonic crystal is proposed. Photonic crystal has many advantage of small size, portability, low cost, high sensitivity and accuracy. The detection of cancer cell is based on the fact that the refractive index of cancer cells differ from normal cells in human body. This difference in refractive index can be observed using optical techniques in 2D photonic crystal. The detection mechanism consists of shift in reflection or transmission coefficient on different wavelength, when a sample of cell is placed in to 2D photonic crystal structure with defect and this shift is different for different types of cancer cells. This helps in interpreting the type of cancer efficiently. For analysis of different cancer cells, refractive index of cancer cells have been taken instead of refractive index of air in the structure. This paper analyzes the shift in wavelength for various cancer cells such as PC12, Basal, Jurkat, Cervical, MCF-7, MDA-MB 231 with the help of grating structure, structure with defect and double ring structure. Finite Element Method based simulation tool, COMSOL Multiphysics has been used for analysis and results are presented in the form of reflection coefficient vs wavelength for various cancer cells.

Published in: 2020 International Conference on Convergence to Digital World - Quo Vadis (ICCDW)

Date of Conference: 18-20 Feb. 2020

Date Added to IEEE *Xplore*: 20 January 2021

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Print on Demand(PoD) ISBN:978-1-7281-4636-2

INSPEC Accession Number: 20288191

DOI: 10.1109/ICCDW45521.2020.9318699

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Cancer is the most leading cause of death global. Globally, the ratio of death is 1 in 6 due to cancer disease. Cancer begins when normal cells start to grow out of control [1]. These uncontrolled cells can destroy healthy cells. Early identification and treatment of cancer helps millions of people around the world to extend their life. There are many types of cancers in the human body such as stomach, colorectal, liver, breast, cervical, lung etc. Early detection of Cancer is necessary to save the life of a patient and give him proper medical treatment in time. There are various methods for cancer detection such as Mammography, Computed Tomography (CT) scan [2], Positron Emission Tomography

Publications
for
Academic Year: 2019-20

Distributed Denial Of Service(DDoS) Mitigation in Software Defined Network using Blockchain

Publisher: IEEE

Cite This PDF

Nupur Giri ; Rahul Jaisinghani ; Rohit Kriplani ; Tarun Ramrakhyani ; Vinay Bhatia All Authors

Abstract:
A DDoS attack is a spiteful attempt to disrupt legitimate traffic to a server by overwhelming the target with a flood of requests from geographically dispersed systems. Today attackers prefer DDoS attack methods to disrupt target services as they generate GBs to TBs of random data to flood the target. In existing mitigation strategies, because of lack of resources and not having the flexibility to cope with attacks by themselves, they are not considered to be that effective. So effective DDoS mitigation techniques can be provided using emerging technologies such as blockchain and SDN(Software-Defined Networking). We propose an architecture where a smart contract is deployed in a private blockchain, which facilitates a collaborative DDoS mitigation architecture across multiple network domains. Blockchain application is used as an additional security service. With Blockchain, shared protection is enabled among all hosts. With help of smart contracts, rules are distributed among all hosts. In addition, SDN can effectively enable services and security policies dynamically. This mechanism provides ASes(Autonomous Systems) the possibility to deploy their own DPS(DDoS Prevention Service) and there is no need to transfer control of the network to the third party. This paper focuses on the challenges of protecting a hybridized enterprise from the ravages of rapidly evolving Distributed Denial of Service(DDoS) attack.

Published in: 2019 Third International conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)

Date of Conference: 12-14 Dec. 2019

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ISBN:978-1-7281-4366-8

INSPEC Accession Number: 19452268

DOI: 10.1109/I-SMAC47947.2019.9032690

Publisher: IEEE

Conference Location: Palladam, India

I. Introduction

Over the last decades Distributed Denial of Service attack has become a top security threat on the network as well as on the Internet Service Providers [1]–[3]. This is because of its increase in number, size, and impact. The main purpose of the DDoS attack is to

Disease Migration, Mitigation, and Containment: Impact of Climatic Conditions & Air Quality on Tuberculosis for India

Publisher: IEEE

Nupur Giri ; Sanika Chavan ; Raghav Heda ; Reema Israni ; Ritika Sethiya All Authors

Abstract:
Changes in the environment affect the epidemiology of air-borne diseases. The paper presents the detailed impact analysis through cross-correlation findings of historic data of air pollution parameters namely SO2, NO2, RSPM and climatic parameters namely Rainfall, Average Temperature and Relative Humidity with Tuberculosis incidents (Total TB cases, Smear positive cases) (Indian Scenario). The work carried out would further be used for prediction of Tuberculosis in the near future using different Machine Learning and Deep Learning techniques.

Published in: 2019 IEEE Pune Section International Conference (PuneCon)

Date of Conference: 18-20 Dec. 2019

Date Added to IEEE *Xplore*: 02 June 2020

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Electronic ISBN:978-1-7281-1924-3
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INSPEC Accession Number: 19669852

DOI: 10.1109/PuneCon46936.2019.9105881

Publisher: IEEE

Conference Location: Pune, India

I. Introduction

Climate changes, such as global warming, increased rainfall, or increased water scarcity and even more extreme weather conditions, such as flooding and storms have measurable effects on the varied climates found across countries like India. The magnitude of these changes impacts the local conditions and the specific ecology and epidemiology of the different diseases. Climatic conditions strongly affect air-borne, water-borne and vector-borne diseases. Geographical conditions also add to these effects. Therefore capacities r

ate change might alter

Advanced Computing Technologies and Applications pp 579-589 | Cite as

Implementation of ROS in Drones for Animate and Inanimate Object Detection

Authors Authors and affiliations

Chinmay Sankhe, Bhavesh Ahuja, Austin Coutinho, Chandan Bhangale, Nupur Giri

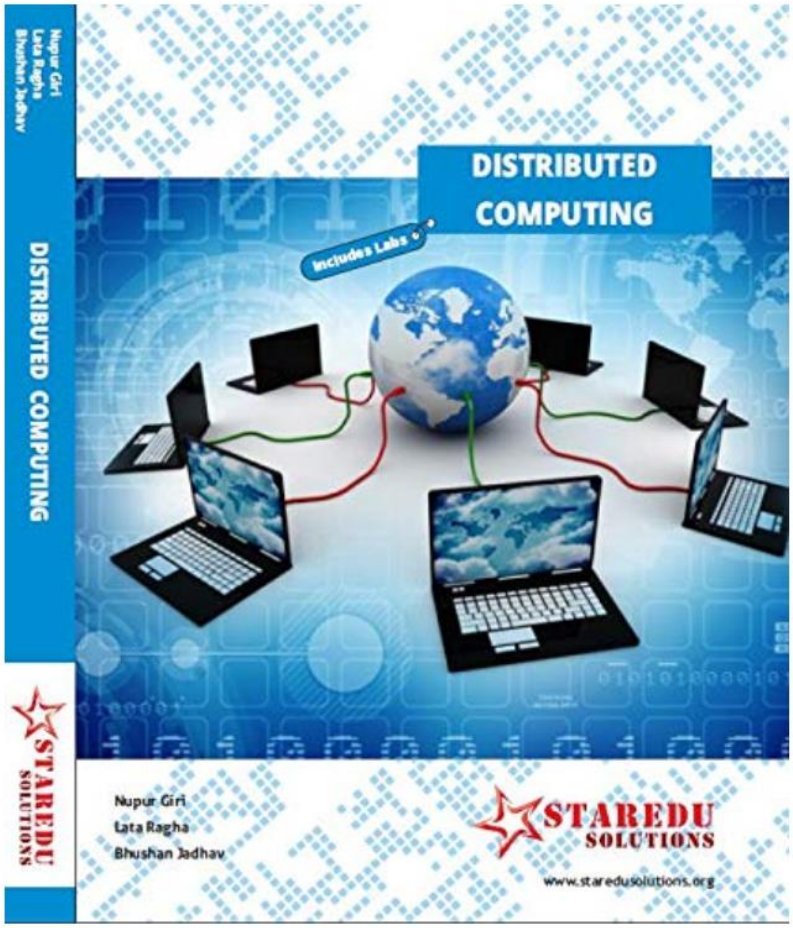
Conference paper
First Online: 07 May 2020

Part of the Algorithms for Intelligent Systems book series (AIS)

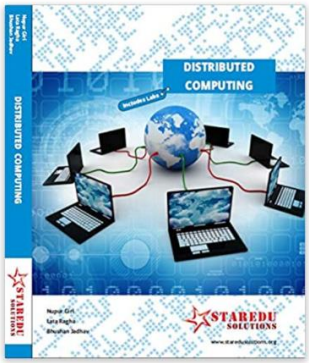
Abstract

The purpose is to create elementary drone surveillance system for safety and security. They become predominant in the time of wars. The aerial surveillance proves to be very promising when wide areas are considered. It provides visual imagery or video of the site. These unmanned aerial vehicles (UAVs) help in safety and security of site and people at public places and military bases. Most drones just provide live video feed through cameras attached to them. It is unable to identify the objects present at the site. Drones also need to be automatic in conditions where remotely controlling the drone is not possible. The drone needs to reach the starting position in these conditions using the shortest path while avoiding obstacles. The drone needs to have an OS of its own during these conditions. It needs to maneuver itself to a safe location. The You Only Look Once—version 3 (YOLOv3) algorithm helps in fast processing of video frames and hence is being widely used for real-time purposes.

Keywords



Books › Computers & Internet › Operating Systems › Distributed Computing



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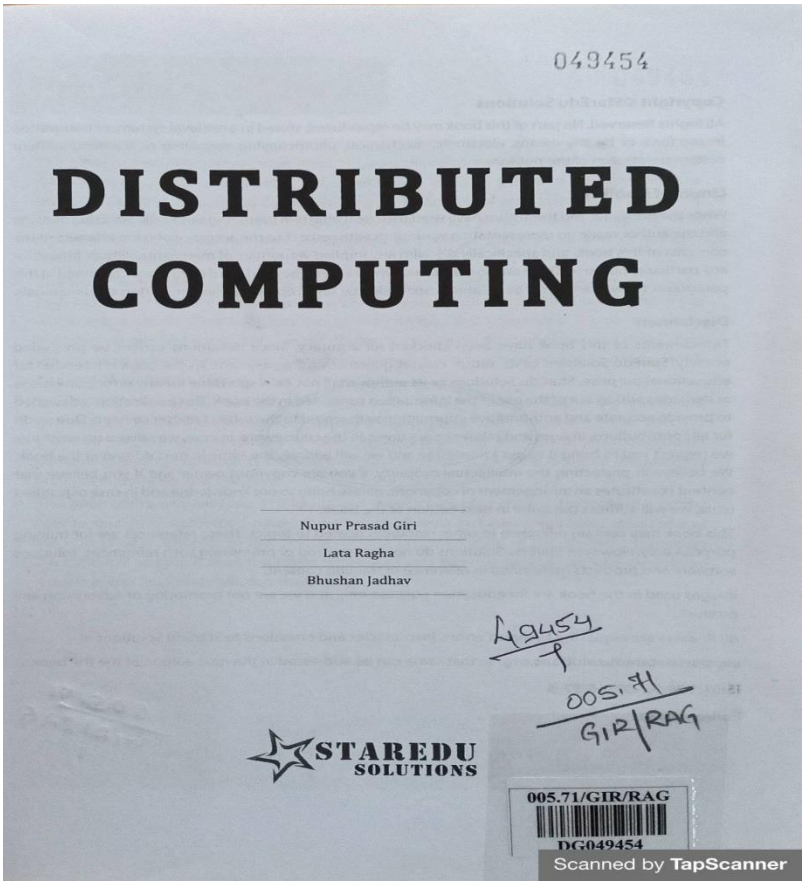
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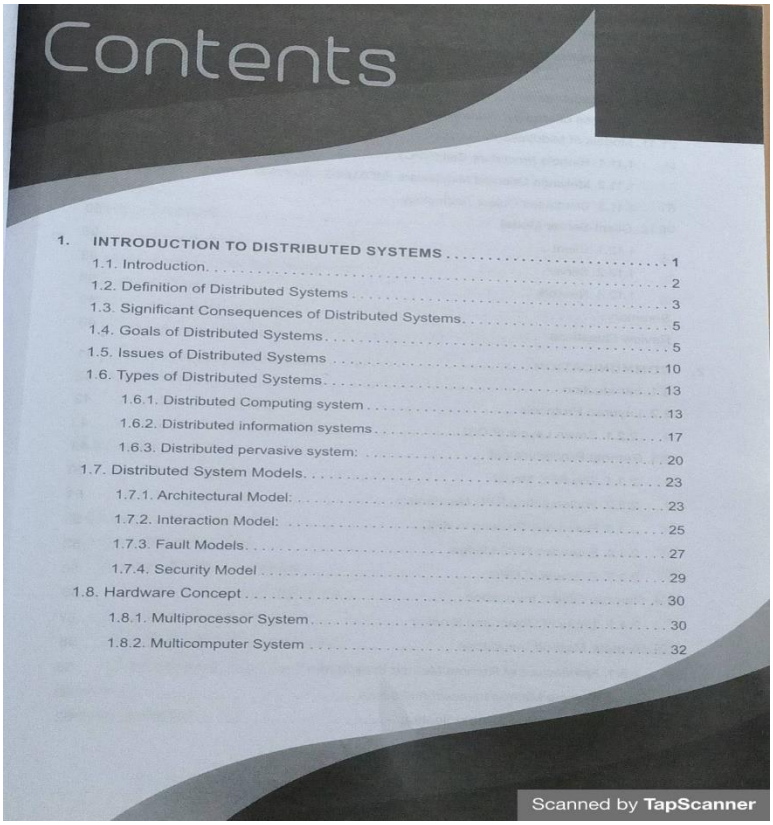
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Pravas Sarthi - A Convenience: MultiLingual Virtual Assistant

Publisher: IEEE

Cite This | PDF

Gresha Bhatia ; Hitesh Tewani ; Aneesh Gunda ; Supratim Kamat ; Anirudh Shankar All Authors

Abstract:
Travelling is a necessity nowadays since it breaks the monotony of life and work. Life, for many, has become a mad rush to such an extent that they have forgotten the essence of life. Travelling gives this very essence back to the people. Meeting new people, getting to know different cultures, visiting new places brings a level of peace to one's mind. But, people are more comfortable communicating in their own language when they feel perplexed in an alien area. This paper thus proposes a system that would ease travellers journey by helping them communicate in their native language. The proposes a novel rule-based algorithm which will extract the feature words from the sentence spoken by the user, performs preprocessing using Natural Language Processing(NLP) and based on some predefined rules, it will display the response to the query asked by the user. This paper thereby focuses on the societal benefits of all travelers in an airport with a language friendly system to make their travel comfortable across different cultures and backgrounds.

Published in: 2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT)

Date of Conference: 6-8 July 2019

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INSPEC Accession Number: 19277600

DOI: 10.1109/ICCCNT45670.2019.8944428

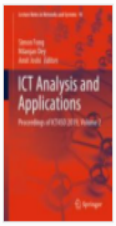
Publisher: IEEE

Conference Location: Kanpur, India

I. Introduction

Flying has become far more inexpensive for every class of the society and demand for travel has exposed people in different areas to many different cultures and languages. With the growth in global air tr

interaction has increased significantly and these differences will have global consequences for training, safety, and communication in aviation operations.



ICT Analysis and Applications pp 365-374 | Cite as

Tweet-Based Sentiment Analyzer

Authors Authors and affiliations

Gresha Bhatia, Chinmay Patil, Pranit Naik, Aman Pingle

Conference paper

First Online: 04 February 2020

Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 93)

Abstract

People, these days, express their opinions regarding any particular topic or issue widely on social media. One such popular social media platform among masses is twitter with over 320 million monthly users. Users also express their thoughts on any political announcements or decisions taken by a particular party. Analyzing these tweets on a specific topic can help in determining what people think about measures undertaken by the government. It will give an idea on how many percent of people are in favor of any announcement, and how many of them stand against it. This will in turn provide areas of improvement for the ruling or opposition party. This paper thus aims on finding sentiments of tweets on a political leader, some party or announcements like a union budget. This can further be generalized to any particular measure undertaken by any organization.

Keywords

Sentiment Twitter API Scraping Live graphing Multinomial Naive Bayes

Smart Systems and IoT: Innovations in Computing pp 363-378 | Cite as

Interactive Electricity Consumption System

Authors Authors and affiliations

Gresha Bhatia, Gurpreet Singh Nagpal, Samujjwaal Dey, Ashish Joshi, Nadiminti Sai Sirisha

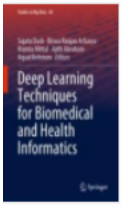
Conference paper
First Online: 27 October 2019

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 141)

Abstract

Energy resources like fuel, water, and electricity form the fundamental requirements for the entire society to operate. It is observed that electricity is the driving force behind any society operations. As the energy requirements exponentially increase, there is a growing need for reliable and transparent power flow to the customers from the distributive end. One such transparent information flow is through the electricity bills that are generated after a month's power consumption. This bill does not provide a split up device wise about power usage. In other words, it can be said that the billing system is not as transparent as should be provided to the user. This paper thus focuses upon the various stages through which power reaches the consumer, the need for a transparent billing system followed by the proposed system. This would, in turn, enable the customer to monitor, analyze, and optimize its resources in order to optimize usage and reduce billing amount, in other terms save power. This paper further evaluates the system in terms of its power consumption, various notifications, and bills generated.

Keywords



Deep Learning Techniques for Biomedical and Health Informatics pp 129-148 | Cite as

Deep Learning and Explainable AI in Healthcare Using EHR

Authors Authors and affiliations

Sujata Khedkar, Priyanka Gandhi, Gayatri Shinde, Vignesh Subramanian

Chapter
First Online: 15 November 2019

Part of the Studies in Big Data book series (SBD, volume 68)

Abstract

With the evolving time, Artificial Intelligence (AI) has proved to be of great assistance in the medical field. Rapid advancements led to the availability of technology which could predict many different diseases risks. Patients Electronic Health Records (EHR) contains all different kinds of medical data for each patient, for each medical visit. Now there are many predictive models like random forests, boosted trees which provide high accuracy but not end-to-end interpretability while the ones such as Naive-Bayes, logistic regression and single decision trees are intelligible enough but less accurate. These models are interpretable but they lack to see the temporal relationships in the characteristic attributes present in the EHR data. Eventually, the model accuracy is compromised. Interpretability of a model is essential in critical healthcare applications. Interpretability helps the medical personnel with explanations that build trust towards machine learning systems. This chapter contains the design and implementation of an Explainable Deep Learning System for Healthcare using EHR. In this chapter, use of an attention mechanism and Recurrent Neural Network(RNN) on EHR data has been discussed, for predicting heart failure of patients and providing insight into the key diagnoses that have led to the prediction. The patient's medical history is given as a sequential input to the RNN which predicts the heart failure risk and provides explainability along with it. This represents

Internet of Things, Smart Computing and Technology: A Roadmap Ahead pp 97-118 | Cite as

Ensemble Classifier for Praise or Complaint Classification and Visualization from Big Data

Authors Authors and affiliations

Sujata Khedkar, Subhash Shinde

Chapter
First Online: 15 February 2020

374 Downloads

Part of the Studies in Systems, Decision and Control book series (SSDC, volume 266)

Abstract

With the advent in Big Data Analytics, IoT and Machine Learning newer opportunities are created for Business organizations to analyze, monitor and mine user-generated contents in real time for business intelligence using cognitive IoT. Customers share their opinions online through social media platforms like review sites, Twitter and Facebook, etc. Sentiment analysis combined with real-time reporting can provide precise valuable contextual insights enabling more improved decision making. The existing sentiment analysis techniques identify only positive, negative or neutral sentiments and do not consider informativeness of reviews while analyzing the sentiments. The extreme opinions like praise and complaint sentences are informative subsets of positive and negative sentences and are very difficult to find. This chapter proposes the Ensemble classifier using linguistic features for praise or complaint classification from big customer review datasets and visualization of it. The Praise and Complaint sentences are further classified based on aspect and analysis at aspect level is presented from business intelligence point of view. The performance of the four different supervised machine learning classifiers, namely Random forest, SVC, KNeighbours, MLP with linguistic hybrid features and Ensemble of above algorithms is evaluated on Hotel and Amazon product reviews dataset using parameters Accuracy, Precision, Recall, and F1-score. The

Chapter

Animate Object Detection and Q Ground Control

By Mitesh Goplani, Jay Rajput, Sladyn Nunes, Akhil Varyani, Sujata Khedkar

Book ICT for Competitive Strategies

Edition	1st Edition
First Published	2020
Imprint	CRC Press
Pages	10
eBook ISBN	9781003052098

ABSTRACT

The drone surveillance system becomes predominantly important in times of wars for safety and security. Drone surveillance provides visual imagery or video of the site. UAVs flying in military and police operations would aid in various surveillance operations by providing high quality footage to identify various targets. Most drones just provide live video feed through cameras attached to them. They are unable to identify the objects present at the site. This paper proposes the development of a machine learning- based approach for the detection of animate objects in real-time video streams captured from the drone. It also involves the development of a ground controller which will be used to operate the drone in manual mode. The controller has many options for taking off the drone, landing, manual control of the drone, destination setting, etc.

International Conference on Pattern Recognition and Machine Intelligence

PReMI 2019: Pattern Recognition and Machine Intelligence pp 111-120 | Cite as

Dyscalculia Detection Using Machine Learning

Authors Authors and affiliations

Alka Subramanyam, Sonakshi Jyrwa, Juhi M. Bansinghani, Sarthak J. Dadhakar, Trena V. Dhingra, Umesh R. Ramchandani, Sharmila Sengupta

Conference paper

First Online: 25 November 2019

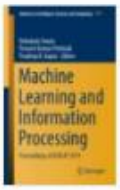
Part of the Lecture Notes in Computer Science book series (LNCS, volume 11941)

Abstract

A great amount of research is going on in the detection of learning disabilities, but the detection of Dyscalculia remains a tedious and time-consuming task even today. Various tests are conducted to detect if the patient has Dyscalculia and each test has to be evaluated manually as the scores alone are not sufficient to determine it. In some cases, Curriculum-Based Tests [CBTs] or Wide Range Achievement Tests [WRAT] or both need to be conducted after analysis of the results of the Woodcock-Johnson Tests. As a collaborative project between the Department of Psychiatry B.Y.L. Nair Ch. Hospital and Department of Computer Engineering, Vivekanand Education Society's Institute of Technology a system is developed to help improve the detection of Dyscalculia. The Woodcock-Johnson Tests of Achievements are conducted by the doctors and the results of these tests determine the learning disability.

Keywords

Decision tree Dyscalculia Learning disability Machine learning Random forest Woodcock-Johnson tests of achievements



Machine Learning and Information Processing pp 27-37 | Cite as

e-Classroom Using IOT to Revolutionize the Classical Way of Knowledge Sharing

Authors Authors and affiliations

Nikhil Vatwani ✉, Shivani Valecha, Priyanka Wadhwani, Vijay Kataria, Sharmila Sengupta

Conference paper
First Online: 24 March 2020

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1101)

Abstract

Advancement in technology has not only led to exchange of information between machines and objects but also led to reduced human intervention. With this, everything is being made smart. A classroom with the functionality to track attendance using an application, change the slides of a presentation, emailing important notes with voice access commands and managing power of the lecture hall automatically can be termed as e-Classroom. Conventional methods of knowledge sharing (or session delivery) and the use of technology are not mutually exclusive, but they complement each other. The classroom will incorporate new innovative aids for teaching which are possible only in an electronic environment. The e-Classroom project aims at flexible, interactive conduction of oral sessions, e-Records of list of sessions conducted by instructors and attendees, maintenance of e-Notes, resources management such as power management and many such modules.

Keywords

Speech recognition Artificial intelligence Face recognition e-Deliverables

Performance analysis of PAPR reduction in G-OFDM with QPSK modulation

Publisher: IEEE

Sharmila Sengupta ; B.K. Lande All Authors

Abstract:
OFDM has several applications in optical, mobile, Wireless and WiMaX systems owing to its energy efficiency. But high peak to average power ratio (PAPR) is one of the main problems in the modulation process of OFDM systems. The influence of number of subcarriers and different modulation techniques to the PAPR in OFDM based applications has been investigated earlier. QPSK or QAM are mainly considered as a digital modulation technique in most of the previous research. The main goal of this paper is to provide an efficient method of analysing and reducing the PAPR of a QPSK modulated signal in Goppa coded OFDM (G-OFDM) system. The results of analysis are presented in various figures and tables.

Published in: 2018 International Conference on Advanced Computation and Telecommunication (ICACAT)

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INSPEC Accession Number: 19257260

DOI: 10.1109/ICACAT.2018.8933669

Publisher: IEEE

Conference Location: Bhopal, India

I. Introduction

OFDM requires that the communication system to be linear within the dynamic range of the power amplifier (PA). The RF amplifier on the output of the OFDM transmitter is not capable of handling the peaks of the transmitted signal against its low average power leading to high PAPR. Therefo

the problem appears during amplification at the tran

h a system is upper bounded which decreases with the increase in the PAPR. This is the main reason that

Chapter

Analysis of PTS-MIMO-OFDM Signal for Goppa Coded Data

By Sharmila Sengupta, B. K. Lande

Book ICT for Competitive Strategies

Edition	1st Edition
First Published	2020
Imprint	CRC Press
Pages	10
eBook ISBN	9781003052098

ABSTRACT

Wireless communications is the core aspect for success of the telecommunications industry. It has the potential to support applications which require high speed and quality in the information transfer between devices which are portable and also located anywhere in the world. MIMO-OFDM is an extension of the OFDM technology and offers space diversity, improved capacity and high antenna gain. It also avoids inter symbol interference inherent in OFDM systems. Another problem associated with OFDM signal is Peak to average power ratio (PAPR) which needs to be mitigated otherwise distortion of the signal would take place if the transmitter contains nonlinear components such as power amplifiers (PAs). Goppa coded information was analysed earlier to reduce PAPR of OFDM signal. In this paper the capability of PAPR reduction using hybrid technique of Goppa codes and partial transmit sequence (PTS method) is analysed over MIMO-OFDM signal.

Advances in Data Sciences, Security and Applications pp 457-466 | Cite as

Orisyncrasy—An Ear Biometrics on the Fly Using Gabor Filter

Authors Authors and affiliations

Labhesh Valechha, Hitesh Valecha, Varkha Ahuja, Tarun Chawla, Sharmila Sengupta

Conference paper
First Online: 03 December 2019

Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 612)

Abstract

Ear has many unique features which can be used for uniquely identifying an individual. Ear as a biometric is very effective and efficient as the medical studies have shown that the significant changes in the shape of the ear happen only before the age of 8 years and after the age of 70 years. The ear is fully grown till the age of 8 years and after that it grows symmetrically by 1.22 mm per year. Also, ear starts to bulge downwards after the age of 70 years. The skin colour distribution of the ear is almost uniform. Ear biometric system can capture the ear from a distance even without the knowledge of the subject under test as it is a passive biometric system. Ear is hard to replicate which will be helpful to reduce cybercrime. Digital cameras capture profile face of the subject at different angles and orientations, from which ear is segmented and further using Gabor filter features are extracted which is fed to a machine learning model to train our data. As Gabor features are extracted from ear images at different angles and different orientations, the system is invariant to rotation of profile face in same or different planes.

Keywords

International conference on Computer Networks, Big data and IoT

ICCBI 2018: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018) pp 1005-1016 | Cite as

Orisyncrasy - An Ear Biometrics on the Fly Using Machine Learning Techniques

Authors Authors and affiliations

Hitesh Valecha, Varkha Ahuja, Labhesh Valechha, Tarun Chawla, Sharmila Sengupta

Conference paper

First Online: 01 August 2019

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 31)

Abstract

Like other biometric using face, iris and finger, ear as a biometric contains a large amount of specific and unique features that allow for human identification. The ear morphology changes slightly after the age of 10 years and the medical studies have shown that significant changes in the shape of the ear happen only before the age of 8 years and after the age of 70 years. It does grow symmetrically in size and begins to bulge downwards as the person ages, but that is a measurable effect. Studies suggest that ear changes only 1.22 mm per year. Although ear and face images can be captured easily from a distance, the ear is unaffected by cosmetics and external entities like spectacles, mask etc. Also, the colour distribution of ear, unlike face, is almost uniform. The position of the ear is almost in the middle of the profile face. Ear data can be captured even without the knowledge of the subject from a distance. Ear biometrics can stand as an excellent example for passive biometrics and does not need much cooperation from the subject, which meets the demand of the secrecy of the proposed system. A digital camera takes the profile face images of the subjects under test from different angles, from which the section of the ear is segmented, preprocessed and feature vectors of the ear are calculated.

5

Information Analysis of Ophthalmic Sonographic Reports Using NLP

[1]Sharmila Sengupta, [2]Shreyas Talole, [2]Aditya Shinde, [2]Atharva Bapat

Abstract

The aim of the paper is to correctly classify the test reports with respect to the tests done on the patient, and the diagnosis; to enable the doctor to efficiently access the records to annotate the report images for training a deep learning model that could identify the disease without any human involvement. To manually classify a huge number of reports is a tedious and time-consuming task and automation would be preferred to be used. To make use of advanced computer algorithms to produce benevolent results will be considered to be a valuable contribution. The task begins with extracting the text from the doctor's reports and classifying the information into various parts in accordance with the report itself. This text content is in the form of a doctor's investigation and therefore it is required to convert it into a structured format. This format is henceforth used to train a model that classifies the report automatically and notifies the presence/absence of any disease. The model would then be able to correctly detect the presence of the disease and would make a record of the same in the statistical CSV file.

[1]Associate Professor, Department of Computer Engineering, Vivekanand Education Society's Institute of Technology, Chembur, Maharashtra, India.
[2]Student, Department of Computer Engineering, Vivekanand Education Society's Institute of Technology, Chembur, Maharashtra, India.


INTERNET OF
EVERYTHING
Includes Labs and Cases
INTERNET
Bhushan Jadhav | Anjali Yeole
Gopal Pardesi | Vaishali Khairnar
Dhananjay Kalbande
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SOLUTIONS
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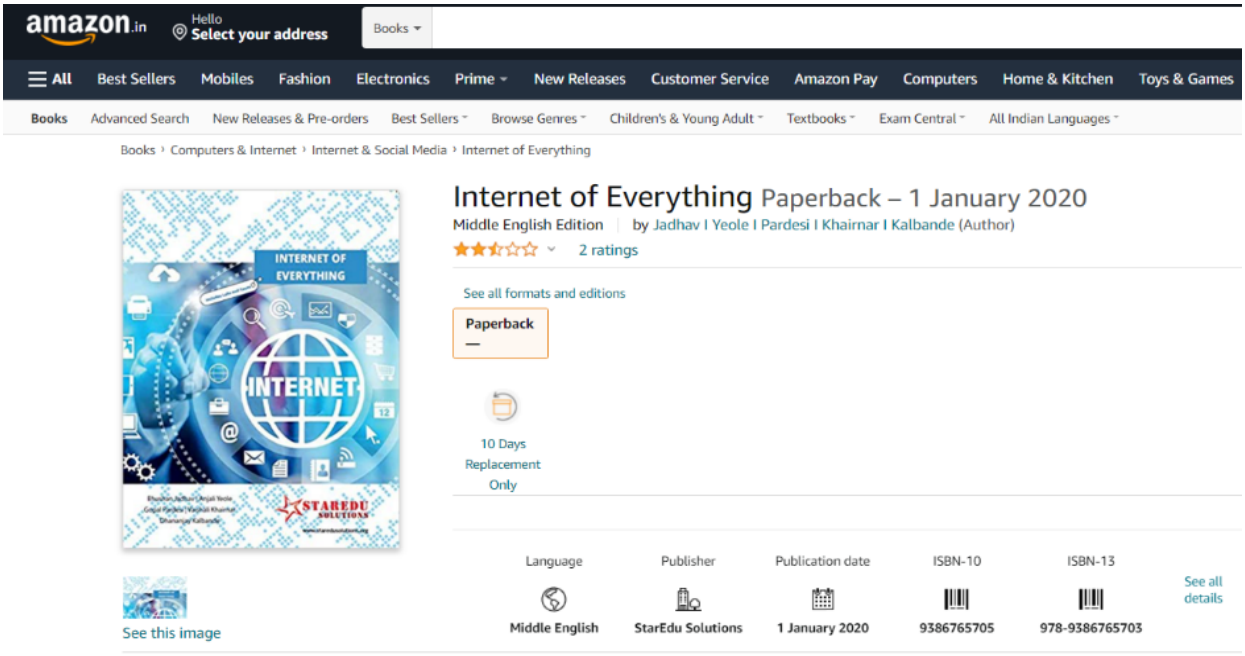

Table Of Contents

IoT Sensor and Deep Neural Network based Wildfire Prediction System

Publisher: IEEE

Cite This

PDF

Vidya Zope ; Tarun Dadlani ; Ashutosh Matai ; Pranjali Tembhurnikar ; Richa Kalani All Authors

Abstract:
Forests, one of the most valuable and necessary resources and protect earth's ecological balance, are a natural habitat to animals and forest products are vital in our lives in many direct and indirect ways. But wildfires can cause critical damage to grounds and many other resources like properties, human life, wildlife in superabundant amounts. Wildfires burn acres of land and destroy everything in their paths in mere minutes. Wildfire destroys homes, animals, trees and plants, wildlife as well as vegetation. The effects of wildfires are numerous and wide-ranging. it causes a hugely significant impact on the economy, environment, heritage and social fabric of rural areas. Naturally caused wildfires can be predicted using factors[3] like temperature, humidity, soil moisture, pressure and many more. In this paper, the prediction of forest fires by machine learning using some operational monitoring over a region and encountering changes in climate using different sensors are advocated. The Wildfire Prediction System (WiPreSy) monitors and records changes in climatic parameters and predicts the intensity of forest fire based on real-time data, thus avoiding the massive loss due to forest fires.

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INSPEC Accession Number: 19711120

DOI: 10.1109/ICICCS48265.2020.9120949

Publisher: IEEE

Conference Location: Madurai, India

I. Introduction

A forest is entirely a biological community for biotic as well as abiotic factors like animals, birds, trees, etc. and water, rocks, and climate in that forest area, respectively. Wildfires are one of the worst types of natural disasters to hit any part of the world. Every year there is a fire season during the Australian summer. Such wildfires are caused due to climate change. In July 2019, a massive forest fire began in Australia. In this season, at least 27 million acres of Australia have been burnt, 29 people were killed and 2,500 homes were destroyed. It is estimated that 1.25 billion animals have been lost in Australian wildfires. [7] Research shows lightning and climate change are the causes of Australian wildfires. Another devastating wildfire in the Amazon rainforest broke out in

International Conference on Advances in Computing and Data Sciences
ICACDS 2019: Advances in Computing and Data Sciences pp 140-150 | Cite as

Thyroid Prediction Using Machine Learning Techniques

Authors Authors and affiliations

Sagar Raisinghani, Rahul Shamdasani, Mahima Motwani, Amit Bahreja, Priya Raghavan Nair Lalitha

Conference paper
First Online: 20 July 2019

Part of the Communications in Computer and Information Science book series (CCIS, volume 1045)

Abstract

Thyroid is a critical medical condition which can be caused either due to increased levels of TSH (Thyroid Stimulating Organ) or due to some infection in thyroid organs itself. The machine learning algorithms have been employed to model the prediction and diagnosis of thyroid patients. A variety of these algorithms including Decision trees, Random forest, Support vector machine, Artificial Neural Network and Logistic regression have been widely used in development of predictive models of thyroid disease. The paper presents a review of recent ML algorithms applied in the prediction and diagnosis of thyroid detection. The proposed system is used for thyroid disease prediction of patients, based on various symptoms and reports of thyroid. With comparative study, different ML techniques are used by the proposed system to achieve better accuracy in disease prediction. Among these, Decision tree algorithm is found to be better with the accuracy of 99.46%.

Keywords

Machine learning Predictive models Thyroid prediction Thyroid diagnosis Thyroid classification

International Conference on Advances in Computing and Data Sciences

ICACDS 2019: Advances in Computing and Data Sciences pp 390-398 | Cite as

Drought Prediction and River Network Optimization in Maharashtra Region

Authors Authors and affiliations

Sakshi Subedi, Krutika Pasalkar, Girisha Navani, Saili Kadam, Priya Raghavan Nair Lalitha

Conference paper

First Online: 19 July 2019

Part of the Communications in Computer and Information Science book series (CCIS, volume 1046)

Abstract

Drought affects the natural environment of an area when it persists for a longer period, prompting dry season. Thus, such dry season can have many annihilating effects on river networks. The paper address this predominant issue in the form of an alternate solution which re-routes the course of the natural water sources, like rivers, through those areas, where the water supply is minimal in comparison with the demand, in a cost-effective and highly beneficial manner. In the proposed model, Deep Belief Network (DBN) is utilized to foresee the early event of drought in Marathwada region of Maharashtra. Standard Precipitation Index is used to categorize the severity of drought. Using DBN model, the accuracy obtained with root mean square error of 0.04469, mean absolute error of 0.00207 is far better over the traditional methods. The application of Swarm optimization technique is used to address the problem of drought mitigation through providing a re-routed path.

Keywords

Deep Belief Network Drought prediction Multi-Swarm Optimization technique River network optimization Standard Precipitation Index (SPI)

Proposed Idea on Detection of Retinoblastoma and its Response to Treatment

R.L Priya ; Omkar Morogiri ; Piyusha Bauskar ; Gauri Sagane ; Pallavi Brahmapurkar All Authors

Abstract:
Retinoblastoma is a common ocular malignancy (Eye cancer) of children. It gets developed in the eyes of children born due to mutation in the RB1 gene. Retinoblastoma is also called leukocoria which develops from the immature cells of a retina. The proposed idea is to develop a web-based application to detect eye cancer and its response to the treatment. Deep learning algorithms like Convolution Neural Network (CNN) can be used for classifying eye images to detect the presence or absence of Retinoblastoma. The proposed system applies pre-processing techniques such as smoothening and resizing to the fundus images of the eye for better results. Image processing techniques such as Histogram equalization, Morphological Operations, Unsharp Masking, Image Intensity Adjustment, and Segmentation are used for tumor extraction. After extraction, the tumor regression is calculated by comparing the area of consecutive stages of the tumor. Thus the proposed system serves as a helping aid to health professionals to track the response of their treatment to such patients.

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Date of Conference: 21-23 May 2021

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Print on Demand(PoD) ISBN:978-1-7281-7030-5

DOI: 10.1109/INCET51464.2021.9456339

Publisher: IEEE

Conference Location: Belagavi, India

I. Introduction

Retinoblastoma(Rb) is an eye cancer found in children and rarely in adults, with a median age of diagnosis being 2 years. Cancer has a genetic origin and is caused due to

Proceedings of the Third International Conference on Computational Intelligence and Informatics pp 325-336 | Cite as

Location-Based Alert System Using Twitter Analytics

Authors Authors and affiliations

C. S. Lifna, M. Vijayalakshmi

Conference paper
First Online: 18 March 2020

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1090)

Abstract

In today's industry, Enterprises are rigorously blending Social Intelligence with Business Intelligence to achieve Competitive Intelligence. So, the ongoing process of Social Analytics cannot be overlooked. If used judiciously, Social Analytics can even address many sensitive social issues such as violation of Human Rights. The objective of the study was to design a platform for Location-Based Alert System which can aid Government bodies in taking corrective action against violation of Human Rights. The locations extracted from tweets were successfully plotted on to Indian map. This visualization revealed the importance of integrating News Analytics with Social Analytics for deriving precise inferences about event.

Keywords

Social Analytics Twitter Location Association Rule Mining Human Rights

2020 | Original Paper | Chapter

CharityChain - Donations Using Blockchain

Authors: Rupali Hande, Tarasha Agarwal, Ranjeet Monde, N. Sai Sirisha, Richa Yadav

Publisher: Springer International Publishing

Published in: Second International Conference on Computer Networks and Communication Technologies

Abstract

CharityChain is a decentralized application, built on Ethereum that provides the user with a place in the virtual ocean, where the user can find a cause that he personally can associate with and help fund it in the fairest form using Blockchain technology. Blockchain technolgy is easy to use, lesser cost and fast access in all areas. NPO s enabe the chance for donations from global donars with the help of block chain technology.

International Conference on Computer Networks and Inventive Communication Technologies

ICCNCT 2019: Second International Conference on Computer Networks and Communication Technologies pp 285-291

| Cite as

Two-Level Text Summarization with Natural Language Processing

Authors Authors and affiliations

Rupali Hande, Avinash Sidhwani, Deepesh Sidhwani, Monil Shiv, Divesh Kewalramani

Conference paper

First Online: 22 January 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 44)

Abstract

Text summarization is the process of shortening a text document in order to create a summary covering important points, aspects of the original document. Text summarization methods are based on extractive model and abstractive model. Two-level text summarization is used to form summary of different news articles. In the first level, multiple news articles are read and first level summary is generated. These multiple summaries are then analyzed and a single summary concerning the news topic is generated in second-level. TextRank with TF-IDF algorithm is used which is an extractive summarization technique to create news summary. The performance of the summary is evaluated using ROUGE matrix.

Keywords

Text summarization | Extractive-based summarization | Abstractive-based summarization | TextRank algorithm | TF-IDF algorithm | ROUGE matrix

International conference on Computer Networks, Big data and IoT

ICCBI 2019: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2019) pp 856-865 | Cite as

An Autonomous Intelligent Ornithopter

Authors Authors and affiliations

Sunita Suralkar, Smit Gangurde, Sanjeevkumar Chintakindi, Haresh Chawla

Conference paper

First Online: 05 March 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 49)

Abstract

The purpose of the system is to provide a powerful and intelligent surveillance tool to the police force so as to reduce crime. The law enforcement agencies have been motivated to use video surveillance systems to monitor and curb these threats. But this becomes a tedious task, prone to human errors. The core module of this system estimates the pose in humans present in the video and a backend capable of understanding the context as a whole. Many AI-powered surveillance systems are good at recognizing violent or malicious activity but fail to understand the context as a whole. We aim to understand the gradual change in human behavior in the given scenario, understand the confidence level of each expression and derive if the given scenario is truly violent or malicious. The Ornithopter is allowed to follow the suspect wherein the direction offsets are given by the server. The system differs from any state-of-the-art surveillance system as it provides aerial surveillance covering larger areas, and since the drone is bird-shaped, it can easily navigate the area without being easily detected. And as mentioned, the recognition of the true violent or malicious activity is context-based.

Keywords

Library - A Face Recognition and QR Code Technology based Smart Library System

Publisher: IEEE

Cite This

PDF

Dhaval Bagal ; Pallavi Saindane All Authors

Abstract:
Libraries play the most important role when it comes to books and reading. Today, libraries have become a great source of information. If we look upon the procedure that most of the conventional libraries in the world follow, we see a great amount of drudgery involved. In this paper, we propose a smart library system, which eliminates most of this drudgery in the conventional library management systems. Using face recognition and QR code based technology, the system automates and eases the tasks of Book Issue, Book Return and Book Search. It resembles `Just walk out technology' implemented by Amazon in the Amazon Go stores. The proposed system enjoins self-issue and self-return procedures along with the dynamic search feature which provides the real-time location of the books. The proposed system significantly expedites the process of issue, return and search thus avoiding long queues at the reception counter/librarian's desk.

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Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Traditional library management systems require a great amount of labor, starting from the person at the issue/return counter to the person who puts all the books at their correct locations when they are returned. When the user needs to issue a book, he has to physically visit the library and then carry out the required formalities in order to get the book issued. At peak times, there are long queues at the counter for the issuance of the books. Even for reissuing the

sit the library and get the formalities done. Apart from all of this, the librarian is largely responsible for the entire library management. He has to properly place the books at the correct location when they are returned. In a conventional library management system, there is no provision to

Performance Evaluation of Different Machine Learning Based Algorithms for Flood Prediction and Model for Real Time Flood Prediction

Chinmayee Kinage ; Abhishek Kalgutkar ; Amruta Parab ; Sejal Mandora ; Sunita Sahu All Authors

Abstract:
Floods are one of the most destructive natural calamities, which are highly complex to model. The causes leading to floods involve many parameters and climatic conditions of the region of interest and it makes a huge impact leading to loss of several lives, damages infrastructure and much more. A flood prediction model can contribute to the risk reduction, policy suggestion, minimization of the loss of human life and reduction of the property damage associated with floods.In this paper, various machine learning algorithms are tested on the collected dataset, to determine which algorithm works best and the influential parameters. In this paper we have also proposed flood prediction model for Mumbai using machine learning and developed an Android application for the same.

Published in: 2019 5th International Conference On Computing, Communication, Control And Automation (ICCUBEA)

Date of Conference: 19-21 Sept. 2019

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INSPEC Accession Number: 19733253

DOI: 10.1109/ICCUBEA47591.2019.9128379

Publisher: IEEE

Conference Location: Pune, India

I. INTRODUCTION

Flood forecasting is one of the most challenging, difficult and important problems in hydrology because of its critical contribution in reducing economy and life losses. Reliability of forecast has increased in recent years due to the improvements in data collection through satellite observations and advancement in knowledge and algorithms

IoT Enabled Gesture-Controlled Home Automation for Disabled and Elderly

Smruti Kshirsagar ; Srushti Sachdev ; Navjyot Singh ; Anushka Tiwari ; Sunita Sahu All Authors

Abstract:
A Smart Home System gives access to the controllable household appliances and may help render the electricity supply in a household, controlling use and along these lines lessening utilization. It has also proven to be an incredible advantage for the elderly and disabled. A form of home automation systems called assistive domotics provides an extensive feature range that can help the ones with particular accessibility concerns in their homes. These technology systems and assisting equipment have emerged as a viable option for the needy, who would rather stay in their homes than move to assisted living facilities. This paper presents a glove-based home automation system which recognizes gestures and hence provides automated device control. Household devices can be controlled with simple gestures made while wearing the glove. A mobile application is also developed for the family members to keep track of the status and usage of devices. Hence, the system provides comfort to the specially-abled and simultaneously, it also keeps the caretakers informed.

Published in: 2020 Fourth International Conference on Computing Methodologies and Communication (ICCMC)

Date of Conference: 11-13 March 2020

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INSPEC Accession Number: 19569529

DOI: 10.1109/ICCMC48092.2020.ICCMC-000152

Publisher: IEEE

Conference Location: Erode, India

I. Introduction

With the rapid growth of technology, it has become important to explore different parts of automation in our day to day lives. Systems such as Artificial Intelligence are poised to help the entire human workforce. Home automation means controlling electronic and

Enhancement and Tampering Detection for Surveillance System

Sunita Sahu ; Nirav Motwani ; Aakanksha Talreja ; Naman Varyomalani ; Kunal Kundnani All Authors

Abstract:
Surveillance systems are prevalent in our lives, and surveillance videos are often used as significant evidence for judicial forensics. Good quality surveillance videos have become essential, due to the increase in the rate of malpractice and misconduct. therefore, there arises a need for high-resolution videos in law enforcement. Along with bad quality, there is one more problem that is faced that is of low light in the image or the video. To tackle these problems, an integrated system ResMaster is proposed which would be a web application, wherein along with video enhancement, video tampering will also be detected. Video enhancement will be done using exposure fusion framework which works on the pixels depending on their exposure. With the use of this framework, results are obtained with enhanced regions that were previously overexposed or underexposed, whereas tampering will be detected using correlation of noise residue for which Gaussian Mixture Model will be used.

Published in: 2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS)

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INSPEC Accession Number: 19711236

DOI: 10.1109/ICICCS48265.2020.9120901

Publisher: IEEE

Conference Location: Madurai, India

I. Introduction

In the past decades, many researchers have devoted their attention to solving the problem of video enhancement. It has a number of applications which include a cell phone, webcam, high-definitio[redacted]n (CCTV), etc.

Advanced Computing Technologies and Applications pp 85-96 | Cite as

Catchment Area Detection and Optimization

Authors Authors and affiliations

Richard Joseph, Sanket Gokhale, Akash Hasamnis, Grishma Gurbani, Rishil Kirtikar

Conference paper
First Online: 07 May 2020

Part of the Algorithms for Intelligent Systems book series (AIS)

Abstract

The main focus of the paper is the issue of water scarcity in the rural parts of India, where there are limited water resources like lakes and rivers. The groundwater level of these areas has also reduced drastically on account of various environmental issues like global warming, etc. The project aims at increasing the catchment areas that are hit by drought-like conditions and thereby increasing the groundwater level, which will eventually help in the long run. We aim at providing a solution making use of climatic data as well as machine learning models. These areas not only lack the rainfall but also the way the water is stored and supply is managed. These results would not only benefit our work, but also the work of thousands of other practitioners and researchers, who find it difficult to analyse the changes in the environment.

Keywords

Catchment prediction | Drought prediction | Two-class decision jungle | Two-class boosted decision tree

Smart Road Traffic Handler: Cause Identification and Resolution Using Image Processing

Publisher: IEEE

Cite This

PDF

Mukesh Yadav ; Kasturi Ghadge ; Nitya Shetty ; Deepa Chanchlani ; Priyanka Narwani ; Richard Joseph All Authors

Abstract:
The issue of road traffic is steadily on the rise by virtue of easy accessibility to automobiles and exponentially rising population. Due to traffic congestion deadlocks, commuters are left stranded in traffic jams for hours leading to a huge waste of time. The other contributing factor to traffic is the advent of private cab services despite the availability of other means of public transport. There are times when road repair work, construction work, accidents are responsible for unforeseen diversions which inadvertently lead to traffic jams. Sometimes, poor road design is also a major cause of traffic. It is extremely important to address this colossal predicament since it not only wastes valuable time but is also hazardous to the environment. Our goal is to devise a comprehensive system that determines the root cause of traffic by incorporating new age technologies like real time video processing and machine learning thereby helping us alleviate traffic issues and promote road safety.

Published in: 2019 9th International Conference on Cloud Computing, Data Science & Engineering (Confluence)

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Date Added to IEEE *Xplore*: 29 July 2019

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ISBN:978-1-5386-5934-2

INSPEC Accession Number: 18868896

DOI: 10.1109/CONFLUENCE.2019.8776938

Publisher: IEEE

Conference Location: Noida, India

I. Introduction

India is the second most populous country and the approximate registered motor vehicle density per 1000 population was 167 in 2015. This means that with increasing population, the number of veh

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lly. On the basis of these statistics, it is obvious that the

arise. Additionally, the number of private vehicles is steadily on the rise in spite of the commencement of fast public transport like the Metro trains and taxi services

Arduino based Sensor Equipped Fire Surveillance Drone

Richard Joseph ; Devashish Gopalani ; Bhavesh Khubnani ; Aniket Bote ; Roshan Devadiga All Authors

Abstract:
In this paper, a solution is proposed that tackles most of the problems in firefighting using a drone equipped with sensors. The drone would have the ability to monitor the environment caught in fire. The proposed solution will be a semi-automated drone that would generate an area map, heat map and toxicity reports of the environment. Along with it, the drone will also provide positional information about the possible presence of living beings. All the functionalities will be implemented using basic sensors like ultrasonic sensors, MPU sensor, DHT sensor, and hardware controllers like Arduino, NodeMCU & Raspberry pi 3.

Published in: 2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS)

Date of Conference: 13-15 May 2020

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INSPEC Accession Number: 19711087

DOI: 10.1109/ICICCS48265.2020.9121043

Publisher: IEEE

Conference Location: Madurai, India

I. INTRODUCTION

Fire-related accidents have become increasingly common. According to statistics revealed by the National Crime Records Bureau, fire accounts for 6% of total deaths caused by natural and unnatural causes[1]. In this project ,sensor-equipped fire surveillance drone is developed that will gather and analyse sensor data in real time. The drone will be equipped with gas sensors- MQ-9 & MQ-135, temperature sensor- DHT11, ultrasonic sensor- HC - SR04. The data collected by these sensors will be sent to the

Chapter

A Hybrid Approach for Detection of Forgery in Video

By Manoj K Sabnis, Rohini Sawant

Book ICT for Competitive Strategies

Edition	1st Edition
First Published	2020
Imprint	CRC Press
Pages	12
eBook ISBN	9781003052098

ABSTRACT

Due to digitalization, the information which was in structured form and handled by only technical people has now shifted in a larger way to unstructured form which can be used by all. This increased the use of multimedia elements like images and videos in number of applications. Adversely this gave rise to image and video forgery. The image forgery problem was found to be well addressed as a large number of research activities have being found in the literature. Currently video usage has been greatly enhanced in various fields due to multimedia systems. Unfortunately sufficient work was not found in the literature for video forgery detection. Thus this field remained unexposed. Working on these lines, this research work mainly focus on Video forgery detection with an enhanced feature of its elimination. Machine learning is used as the working technology alone with image processing to explore the motion parameters and to extract the required features. This research work also goes one step further to identify the forge object so as to enable its removal. This work is put forward as system design approach in which the methods implemented are

Edu-Coin: A Proof of Stake implementation of a decentralized skill validation application

Publisher: IEEE

Cite This

PDF

Namita Nair ; Ankit Kumar Dalal ; Abhishek Chhabra ; Nupur Giri All Authors

Abstract:
This paper introduces a use case for blockchain in the field of education. The concept of a social networking DApp (Decentralised App) Edu-Coin that uses the concept of giving the control of their data back to the users, reward them for sharing their skills and using the platform. This idea uses the Tendermint core for blockchain, a framework in which individuals can make peer-to-peer transactions without needing to trust a third party, a blockchain that is based on the Proof of Stake. In Edu-Coin, working professionals can ensure that their skills are validated by an unbiased majority, called validators. It also assesses the Emotional Quotient of an individual. Validators whose responses get accepted to the blockchain are able to earn Edu-Coin, which can be utilized for making different purchases on the site. The platform makes use of one tradable token (Edu-Coin) and one internal accounting token (ERP) that serves as an evaluation of the users on the respective skill sets. This rating can be useful in the evaluation process of educational institutes as well as for professional grading of employees and job applicants.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

Date of Conference: 4-5 Jan. 2019

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INSPEC Accession Number: 19245628

DOI: 10.1109/ICNTE44896.2019.8946031

Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

In 2009, S. Nakamoto introduced a new method of making peer-to-peer transactions in a trustless setting using a hashing based proof of work. He proposed a decentralised currency called Bitcoin [1], where miners would be able to earn rewards by solving difficult cryptographic puzzles ore malleable blockchain

GreenCoin: Empowering smart cities using Blockchain 2.0

Publisher: IEEE

Siddharth Dekhane ; Kaushal Mhalgi ; Kaushik Vishwanath ; Shivani Singh ; Nupur Giri All Authors

Abstract:
The work presented in this paper aims to propose a novel idea to use blockchain technology and IoT devices or solar devices that generate solar power for smart power distribution within the ecosystem for optimal and secured transactions for the demands of many smart cities. The blockchain 2.0 provides a consensus-based mechanism for programmable transactions. The paper presents a blockchain based power distribution ecosystem for smart cities by incorporating a wallet-based currency, called "Green Coin", for power transactions of buying, selling and lending. It integrates negotiation model for monopoly avoidance and a transparent and fair system to every Power Service Provider (PSP) in the system.

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Date of Conference: 4-5 Jan. 2019

INSPEC Accession Number: 19245582

Date Added to IEEE *Xplore*: 02 January 2020

DOI: 10.1109/ICNTE44896.2019.8946014

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Electronic ISBN:978-1-5386-9166-3
Print on Demand(PoD)
ISBN:978-1-5386-9167-0

Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

Smart cities integrate information and communication technology (ICT), and physical network devices to optimize the efficiency of city operations and services. Modern cities have an ever-increasing energy demand and hence energy usage, conservation, production and distribution have prime importance in smart city design to suffice the city demands, the solar energy provides an economical and efficient alternative energy source. Solar powered devices and IoT devices ensure smart utilization [3] of solar power. Blockchain integration [redacted] and optimal usage of

Home Automation Using Panoramic Image Using IoT

Publisher: IEEE

Nupur Giri ; Chetan Gupta ; Mohit Choithwani ; Prasanna Biswas ; Piyush Gidwani All Authors

Abstract:
In this era of modernization where the electronics devices are becoming cheaper, we felt that there is a need of combining IOT with the non-IT sectors (like in business or in common man's lifestyle). It will not only automate and ease the use of technology to common man but it will also make them aware about the usage of the appliances. Technology had to catch up to ideas and the phrase Smart Home finally came around in 1984.Home Automation can be described as controlling the household appliances using smart technologies. The basic aim of this Home automation paper is to use smartphone to control different electrical appliances using panoramic image of your home or any place where you want to control different electrical appliances. Panoramic image implies the 360 view of your home, such that it cover almost every appliance of that place.

Published in: 2018 International Conference on Recent Innovations in Electrical, Electronics & Communication Engineering (ICRIEECE)

Date of Conference: 27-28 July 2018

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INSPEC Accession Number: 19412922

DOI: 10.1109/ICRIEECE44171.2018.9008688

Publisher: IEEE

Conference Location: Bhubaneswar, India

I. Introduction

This project presents the overall working of Home Automation System using Panoramic image using IOT with low cost and wireless system. This system is designed to assist

Drug review analytics of neurological disorders

Publisher: IEEE

Dipen Chawla ; Disha Mohnani ; Varsha Sawlani ; Sujay Varma ; Sujata Khedkar All Authors

Abstract:
These days, adverse reactions caused due to medical drugs are one of the major causes of loss of human life. Highly priced laboratory tests aren't enough to obtain all the adverse reactions caused by the majority of the drugs. As a result, it is the need of the hour to develop systems which would supervise effects of drugs after they are cleared for use. Here, we evaluate a self-operating system for drug effectiveness identification on a set of user comments which are annotated manually. We shall try to obtain a relation between the already documented adverse reactions of a drug and those obtained by the proposed system. For this purpose, the system would use unlabeled data. It has been observed that user comments contain a vast variety of complex sentences which pose a natural language challenge. However, these user reviews provide huge scope for further exploration as well.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

Date of Conference: 4-5 Jan. 2019

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INSPEC Accession Number: 19245650

DOI: 10.1109/ICNTE44896.2019.8945981

Publisher: IEEE

Conference Location: Navi Mumbai, India

ISBN Information:
Electronic ISBN:978-1-5386-9166-3
Print on Demand(PoD) ISBN:978-1-5386-9167-0

I. Introduction

Today's healthcare professionals use online platforms such as blogs, social media, and websites extensively to convey opinions on health matters and the use of drugs. The use of such distributed data availa

he ultimate aim of

International Conference on Intelligent Computing, Information and Control Systems

ICICCS 2019: Intelligent Computing, Information and Control Systems pp 470-481 | Cite as

Linguistic Feature-Based Praise or Complaint Classification from Customer Reviews

Authors Authors and affiliations

Sujata Khedkar, Subhash Shinde

Conference paper

First Online: 19 October 2019

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1039)

Abstract

Online reviews are very important in the customer's decision-making process in selecting the appropriate products in the online shopping portal. These reviews are then analyzed by business organizations to understand customer sentiment w.r.t. product/service. Traditional sentiment analysis techniques identify only positive, negative or neutral sentiment w.r.t. reviews and does not consider informativeness of reviews while analyzing sentiment. The extreme opinions like Praise and complaint sentences are considered as a subset of positive and negative sentences and becomes difficult to find. Praise sentences are more descriptive in nature. Praises contain more nouns, adjectives, intensifiers as compared to plain positive sentences and complaint sentences contain more connectives and adverbs rather than the plain negative sentences. This paper proposes a Linguistic feature-based approach for review sentences filtering and Hybrid feature selection method for classifying review sentence as Praise or Complaint.

These Praise and Complaint sentences can be further analyzed by business organizations to identify the reasons for customer satisfaction or dissatisfaction. It can also be used for creating

Stock Price Prediction Using Machine Learning Techniques

Publisher: IEEE Cite This PDF

Sumeet Sarode ; Harsha G. Tolani ; Prateek Kak ; C S Lifna All Authors

Abstract:
In today's economy, there is a profound impact of the stock market or equity market. Prediction of stock prices is extremely complex, chaotic, and the presence of a dynamic environment makes it a great challenge. Behavioural finance suggests that decision-making process of investors is to a very great extent influenced by the emotions and sentiments in response to a particular news. Thus, to support the decisions of the investors, we have presented an approach combining two distinct fields for analysis of stock exchange. The system combines price prediction based on historical and real-time data along with news analysis. LSTM (Long Short-Term Memory) is used for predicting. It takes the latest trading information and analysis indicators as its input. For news analysis, only the relevant and live news is collected from a large set of business new. The filtered news is analyzed to predict sentiment around companies. The results of both analyses are integrated together to get a response which gives a recommendation for future increases.

Published in: 2019 International Conference on Intelligent Sustainable Systems (ICISS)

Date of Conference: 21-22 Feb. 2019

DOI: 10.1109/ISS1.2019.8907958

Date Added to IEEE *Xplore*: 21 November 2019

Publisher: IEEE

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Conference Location: Palladam, India

1 Introduction

For many decades, the object of studies has been the prediction of the stock markets and despite it's convolutedness, dynamism, and derrangeness, making it an extremely

International conference on Computer Networks, Big data and IoT

ICCBI 2018: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018) pp 998-1004 | Cite as

Smart Navigation Application for Visually Challenged People in Indoor Premises

Authors Authors and affiliations

Ganesh Kotalwar, Jigisha Prajapati, Sharayu Patil, Dilip Moralwar, Kajal Jewani

Conference paper

First Online: 01 August 2019

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 31)

Abstract

It is very difficult for a visually impaired person to perform its day to day job with ease. Since Mobile applications are largely used among people they have high potential in aiding blind people. In this paper, we are trying to present an application to assist visually disabled. The android application will be using Deep learning object detection and identification techniques such as YOLO, R-CNN etc. The need for navigation help among blind people and a broader look at the advanced technology becoming available in today's world motivated us to develop this project. Technology is something which is there to ease tasks for human beings. Hence, in this project, we use technology to solve the problems of visually impaired people. The project aims to help users in navigation with the use of technology and our engineering profession motivates us to use the technology we have.

Keywords

Object detection Deep learning YOLO R-CNN

Protection of Mangrove Forests using Image Processing Techniques

Publisher: IEEE

Kajal Jewani ; Prerna Baliga ; Prem Amal ; Piyush Mangtani ; Yash Kasturi All Authors

Abstract:
With the increasing degradation of mangroves, the coastal areas are getting affected to such an extent that, the mangroves are on the verge of extinction. In this paper, discussion regarding various methods to determine the mangrove cover in a particular area is done. Two images will be taken at different time intervals of that particular area and pre-processing of the images will be done along with feature extraction and a difference image will be produced. This difference image would help in determining the cause of mangrove destruction and kind of measures which could be taken to prevent such destruction. This paper proposes various image processing algorithms which can be used for mangrove extraction and detection.

Published in: 2019 6th International Conference on Computing for Sustainable Global Development (INDIACom)

Date of Conference: 13-15 March 2019

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Print on Demand(PoD) ISBN:978-1-5386-9271-4

INSPEC Accession Number: 19358167

Publisher: IEEE

Conference Location: New Delhi, India

I. Introduction

Mangrove is important with respect to coastal areas. They provide important functions like preventing coastal erosion, carbon storage, coverage of shorelines. They provide habitat to different species of birds, mammals etc. They also help in maintaining the quality of water, filtering out th

ect contact with tidal waters, mangrove leaves sett bacteria, which perform

Proposed Solution for Trackable Donations using Blockchain

Publisher: IEEE

N. Sai Sirisha ; Tarasha Agarwal ; Ranjeet Monde ; Richa Yadav ; Rupali Hande All Authors

Abstract:
The lack of transparency has made people lose trust in charities, making social funding stagnant. The donor is unaware of the legitimate utilization of his funds. Corruption adds to the distrust of the donor. This paper proposes a system called Charity-Chain that is a decentralised network built on the Ethereum blockchain. It helps social organisations to run projects transparently, using smart contract-based incentives to ensure their impact is independently verified and accessible to everyone. This makes it much easier for funders (philanthropic organisations, impact investors, small donors) to monitor their transactions and hence restore their trust in giving to such social organizations.

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INSPEC Accession Number: 19245647

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Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

The problem that the paper addresses is that there is a lack of transparency in the transactions pertaining to donations and funds provided by the Government or other donors. There is a need to allow donors to keep track of their donations and bring transparency to social funding. The objective is to ensure the traceability of one's donation, and keeps funds secure. This will help to redress the decline of public trust in

International conference on Computer Networks, Big data and IoT

ICCBI 2018: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018) pp 1017-1031 | Cite as

A Comprehensive Study of Various Techniques Used for Flood Prediction

Authors Authors and affiliations

Sagar Madnani, Sahil Bhatia, Kajal Sonawane, Sukhwinder Singh, Sunita Sahu

Conference paper

First Online: 01 August 2019

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 31)

Abstract

Floods, the naturally occurring hydrological phenomena, caused due to the meteorological events like intense or prolonged rainfall, unusual water overflow of high coastal estuaries on the result of storm surges. On an account of a lot of concrete structures in urban areas, high-intensity rainfall causes urban flooding and as there is no much soil available for water to percolate, this leads to huge drainage problems in urban cities. These types of floods cause harm to houses, buildings, humans, animals, farming land. Flooding leads to contamination of drinking water, spreading of diseases. In recent years, due to the combination of meteorological, hydrological and topographical modeling terminologies, advancement in data collection methods and algorithm analysis, the results of flood forecasting have been improved. In this paper, we have studied different techniques for flood prediction involving Neural Networks, Fuzzy Logic, and GIS-based systems with various algorithms considering different factors. The study shows, on introducing local parameters, increasing the size of acceptable error bounds, and combining different algorithms, better performance of the model is achieved.

Contagious Disease Propagation Study Using Machine Learning

Publisher: IEEE

Cite This PDF

Richard Joseph ; Yohan Mahajan ; Sanjib Naha Biswas ; Karan Patowary ; Dhanashri Asai All Authors

Abstract:
Depiction and prediction of the spreading of infectious and contagious diseases can be well understood with the help of simulation studies. Our main aim is to reduce future global disease spreading with the help of Machine Learning. The proposed system aims to mine the environmental data and correlate it with the diseases, to predict the patterns in which the communicable diseases transmit and propagate. The proposed solution takes into consideration statistics related to contagious diseases from different states of India and all over the world, to understand the sustainability conditions for the diseases and derive the patterns of its propogation. The input data for the proposed system is the environmental factors related to the sustainability conditions for the diseases. The system using OpenStreetMap framework will provide geospatial visualisation of the areas affected in the past and the regions that are most susceptible to the disease in the future. This will help the government entity to take necessary actions and preventive measures to mitigate the problem.

Published in: 2018 3rd International Conference on Inventive Computation Technologies (ICICT)

Date of Conference: 15-16 Nov. 2018

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ISBN:978-1-5386-4986-2

INSPEC Accession Number: 19453214

DOI: 10.1109/ICICT43934.2018.9034328

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Changes in climatic conditions such as global warming, change in the level of rainfall, or rised water scarcity and even more extreme weather conditions, such as flooding and acute precipitation events has drastic effects on the varied climates found across countries like India. These changes have a great impact on the conditions, strength and capability of harming life of the different diseases. Climatic conditions adverse effects on air-borne, water-borne and vector-borne diseases. Therefore there needs to be a method or a system to check how clim eness of the disease or the extend to which it might affect the health of the people in the future so that the epidemics that has a significantly large impacts on the health of the people could be avoided. Our major objective is to improve the mitigation plan for contagious diseases by

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International conference on Computer Networks, Big data and IoT

ICCBI 2018: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018) pp 752-758 | Cite as

IoT Based Air Quality Monitoring Systems - A Survey

Authors Authors and affiliations

Sumi Neogi, Yugchhaya Galphat, Pritesh Narkar, Harsha Punjabi, Manohar Jethani

Conference paper

First Online: 01 August 2019

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 31)

Abstract

With an increasing level of industrialization, air pollution has become one of the major problems all over the world. The quality of air in the atmosphere is becoming progressively worse due to the emission of harmful gases and other pollutants. With many small, medium and large industries coming up, air pollution has disturbed the entire ecological system and affected lives of humans as well as plants and animals. This creates a need for real-time air quality monitoring systems for micro, small and medium industries so that timely decisions can be taken to avoid environmental degradation. IoT has been proven one of the effective ways for such systems and when merged with cloud computing provides a revolutionary method of management and analysis of data coming from sensors. In this paper, we have done a comparative study of all the existing implementations and various features of the system have been documented.

Keywords

Raspberry Pi Gas sensors IoT (Internet of Things)

International conference on Computer Networks, Big data and IoT

ICCBI 2018: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018) pp 976-983 | Cite as

Survey and Analysis of Pest Detection in Agricultural Field

Authors Authors and affiliations

Yugchhaya Galphat, Vedika R. Patange, Pooja Talreja, Somil Singh

Conference paper

First Online: 01 August 2019

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 31)

Abstract

Pest infestation is the major problem that our farmers are facing in the agricultural fields. This causes huge damage to the food crops. In order to control the attack of the pests, farmers use pesticides. The excessive use of pesticides turns out to be dangerous to the plants, animals and also to the human beings. It causes various health disorders such as asthma, eye and respiratory tract irritation, skin cancer, etc. In order to decrease the infestation of the pests in the agricultural fields, image analysis techniques are applied to agriculture science and thus provides maximum protection to crops which results in crop management and production. This paper does the survey and analysis of the various image processing algorithms used for pest detection and also the implementation of IOT to detect the pests based on the climatic changes. In addition, this paper is concluded with the analysis of various studies done by the researchers on the techniques and algorithms used for the detection of agricultural pests.

Keywords

Image processing Internet Of Things K means clustering Sensors Sticky traps

International conference on Computer Networks, Big data and IoT

ICCBI 2018: Proceeding of the International Conference on Computer Networks, Big Data and IoT (ICCBI - 2018) pp 873-880 | Cite as

Data Mining Approach for News Inspection on Social Media: A Survey

Authors Authors and affiliations

Yugchhaya Galphat, Heena Banga, Isha Dalvi, Priya Jethmalani, Shraddha Talreja

Conference paper

First Online: 01 August 2019

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 31)

Abstract

Social Media is the useful servant but a dangerous master, by virtue of it a biggest new-age real world problem arises termed as "Fake News" which represents information that is completely fabricated and is created deliberately to misinform or deceive readers. Also with the advent of social media which on the one hand is low cost, easily accessed and its rapid dissemination of information that lead people to seek out and consume news from social media but on the other hand, it enables the widespread of fake news which has the potential for extremely negative impacts on individuals and society and hence it needs to be stopped. This paper aims to give attention to the fake news problem, its psychological impacts and all the existing approaches to detect fake news. Also an analysis of all the approaches is performed and datasets available for fake news are discussed.

Keywords

Fake news Social media

Semi-Supervised Mix-Hindi Sentiment Analysis using Neural Network

Publisher: IEEE

Cite This

PDF

Mukesh Yadav ; Varunakshi Bhojane All Authors

Abstract:
Most of the people in the world now a day would like to share and express their feelings, views, experiences, suggestions and opinions on the web. These opinions are processed by sentiment analysis task and find their polarity.In this paper, we use input text file in Devanagari script stored in UTF-8 encoding scheme. We propose 3 approaches for doing sentiment analysis for Hindi multidomain review. In approach 1, classification of data is done using NN Prediction by using pre-classified words. In approach 2, classification of data is done using IIT-Bombay Hindi SentiWordNet (HSWN). In approach 3, classification of data is done using NN prediction using pre-classified sentences as labeled data. Finally, we report accuracies in every approach. We have different domain (Health, Business, Current affairs, Tourism, Movie, Technology and Product) review dataset manually and randomly collected by us. They contain Mix-Hindi words like (brave), (careful), (mineral), etc., for which we have created dictionary to deal with them. We achieve overall accuracy of 52% in approach 1, 71.5% accuracy in approach 2 and 70.27% accuracy in approach 3.

Published in: 2019 9th International Conference on Cloud Computing, Data Science & Engineering (Confluence)

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ISBN:978-1-5386-5934-2

INSPEC Accession Number: 18868891

DOI: 10.1109/CONFLUENCE.2019.8776943

Publisher: IEEE

Conference Location: Noida, India

1. Introduction

In natural language processing (NLP), Sentiment Analysis work is to classify whether textual data belongs to positive, negative or neutral class category. Input can be a product review, news and newspaper review, movie review, comment from social media websites or blogs. We can ex

h is a worldwide practice

Computation of Strain in Deformed Pearlitic Steel Using Digital Image Correlation Technique

Publisher: IEEE

Cite This

PDF

Kavita Tewari ; R. K. Kulkarni All Authors

Abstract:
In the present paper, digital image correlation (DIC) technique has been used to investigate the deformation process in metal and alloys. For this purpose, of a sample of pearlitic steel, comprising a fine distribution of alternate layers of ferrite and cementite, was deformed, and the same region of the sample was investigated before and after deformation. The analysis of the deformation of the sample was carried out using an open-source software Ncorr. Using DIC technique displacements along preselected x and y-axes were estimated, which were, in turn, used in computing strains along x and y directions representing normal strains along with shear strains. The results obtained have elucidated variation and localization of the strain at different points of the sample.

Published in: 2019 International Conference on Advances in Computing, Communication and Control (ICAC3)

Date of Conference: 20-21 Dec. 2019

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INSPEC Accession Number: 19487029

DOI: 10.1109/ICAC347590.2019.9036743

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Determination of local strain in a material is a long-standing issue, as it helps in identifying the probable regions of crack initiation [1]. Prior identification of regions of strain accumulation can help in predicting the failure of a component. Such a problem not only has technological importance but also is scientifically challenging. Therefore, a variety of approaches to calcu d strains, namely, strain-gauge method, interferometri (DIC), has been developed [2]. In this regard, swift advancements in the field of digital image processing in the past few years have drawn considerable attention, and owing to these advancements, many analyzers have developed various digital image correlation

Raspberry-Pi based Smart Power Monitoring system

Publisher: IEEE

Abhay Kshirsagar ; Narendra Walawalkar ; Harish Yadav ; Shrutisneha Prasad ; Prajakta Paranjape All Authors

Abstract:
This paper design a power monitoring system for household's plug-in loads which consumers use on a daily basis. This project once deployed in the field will sense the electrical quantities and upload it on the web server so that it will be accessible through the website as and when required. The output will show the graphical analysis of the analog electrical quantities which are easily analyzed by the non-technical person in the household. This system will help the user to have an analysis of power usage. On that basis, a detailed survey on power quality usage can be done by further developments and help us to have energy cut downs wherever necessary to save energy on industrial sites and distribution areas.

Published in: 2019 International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 17-19 July 2019

Date Added to IEEE *Xplore*: 20 February 2020

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INSPEC Accession Number: 19379478

DOI: 10.1109/ICCES45898.2019.9002155

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

This system can be referred to as an Energy Management System (EMS). The main motive of the system is to reduce the power consumption by recording, monitoring, analyzing and comparing the load parameters. The system will draw energy consumption trends on a daily/weekly/mont[illegible]e the energy budget corresponding to user require[illegible]specific area of wasted energy. In conventional energy meters, inaccuracies due to manual limitation and

IoT based Autonomous Tunnel Electrical Cable Fault Detection and Maintenance Robot

Publisher: IEEE

Cite This

PDF

Asawari Dudwadkar ; Amogh Gajare ; Yogesh Tembe ; Amey Sonje All Authors

Abstract:
For the long term sustainability perspective, many major cities around the globe are using underground tunnels for power cable distribution. The conventional method is environmentally damaging and significantly more expensive. Human workers face many difficulties in maintaining and repairing the power cables in underground tunnels. Hence our system substitutes the need for a human presence inside the tunnel for fault detection of power cables. Our system presents a model of a robot that can inspect the surrounding conditions of the underground tunnel by traveling from one end of the tunnel to another without any human interference. With the help of the sensors employed on the Robot, all the information about underground tunnels such as the presence of harmful gases, temperature, obstacles, and fire accidents is transmitted by a wireless means through RF transceiver. Along with this data, the Robot detects physical damage on the wire and sends fault location to the receiving station through RF transceiver. Hence the above data helps the user to estimate the safety or danger level and accordingly to decide the plan of action to solve the problem in the fastest way possible.

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Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

In today's 21st century, as science and technology are progressing day by day, urbanization of the cities is accelerated, and the available space is wholly utilized effectively for the construction of efficient infrastructure. It facilitates the use of underground space for further development and constructing a tunnel structure for the fulfillment of various needs of the community. One of the basic needs of today's generation is electricity. The failure of the underground power distribution system causes

Design and Simulation of a New Reconfigurable Analog to Digital Converter based on Multisim

Jayamala Adsul ; J. M. Nair ; P. P. Vaidya All Authors

Abstract:
This paper presents the design of a reconfigurable Analog-to-Digital Converter (ADC). The design employs a sub-ranging technique and implements a reconfigurable ADC which can be configured to give 8-bit, 12-bit and 16-bit resolution. This ADC can be used for a variety of applications since its resolution and conversion time can be varied depending upon the application. The design has been simulated using NI Multisim 14.1 and results have been presented in this paper. It achieves 8-bit resolution with the sampling rate of 100MHz, 12-bit resolution with the sampling rate of 250KHz and16-bit resolution with the sampling rate of 50KHz.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

Date of Conference: 4-5 Jan. 2019

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INSPEC Accession Number: 19245571

DOI: 10.1109/ICNTE44896.2019.8946032

Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

There are two categories of ADC like conventional ADC and reconfigurable ADC. But reconfigurable ADC can be designed to achieve better performance parameters such as resolution, bandwidth and pow[illegible]equired to process signals from different commun[illegible]radio, sensors and nuclear pulse spectroscopy [1]. These reconfigurable ADCs have been designed using

Predicting Cryptocurrency Value using Sentiment Analysis

Publisher: IEEE

Abid Inamdar ; Aarti Bhagtani ; Suraj Bhatt ; Pooja M. Shetty All Authors

Abstract:
This paper cross validates thesis given by few authors on the impact of social media on cryptocurrency prices. Initially, the focus is on the Bitcoin, later on, a similar model can be used for other cryptocurrencies. Sentiment scores of tweets and news feeds are considered along with historical prices and its volume to predict prices. Experimental results show that there is not much impact of sentiment scores unless these scores are not biased to one particular class.

Published in: 2019 International Conference on Intelligent Computing and Control Systems (ICCS)

Date of Conference: 15-17 May 2019

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INSPEC Accession Number: 19531952

DOI: 10.1109/ICCS45141.2019.9065838

Publisher: IEEE

Conference Location: Madurai, India

I. Introduction

Bitcoin is a successful cipher currency introduced into the financial market based on its unique protocol and Nakamoto's systematic structural specification. Bitcoin is decentralized i.e., it is not owned by anyone. Transactions made with Bitcoins are easy as they are not tied to any cou ies are focusing on Bitcoin and in future, there are rency throughout the world. The aim of this project is to analyze the market as well as social media trends to predict Bitcoin prices. Having such functionality implemented would help any person to

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Dengue Outbreak Prediction Using Data Mining Techniques

EasyChair Preprint no. 3209

8 pages • Date: April 20, 2020

Asha Bharambe and Dhananjay Kalbande

Abstract

The incidence of dengue has grown dramatically around the world in the past decade. Preventive measures should be adopted to reduce the number of incidences and deaths caused by Dengue. Measures for early case detection, improved outbreak detection and prevention techniques are required to be implemented. We have implemented several data mining techniques for prediction of dengue outbreaks.

Keyphrases: Data Mining, Dengue, prediction, time series

Links: https://easychair.org/publications/preprint/JVgg

BibTeX entry

Dengue Outbreak Prediction Using Data Mining Techniques

Asha Bharambe[1], Dr. Dhananjay Kalbande[2]
[1] Department of Information Technology, V.E.S.I.T, Mumbai, India
[2] Department of Computer Engineering, S.P.I.T, Mumbai, India

Abstract. The incidence of dengue has grown dramatically around the world in the past decade. Preventive measures should be adopted to reduce the number of incidences and deaths caused by Dengue. Measures for early case detection, improved outbreak detection and prevention techniques are required to be implemented. We have implemented several data mining techniques for prediction of dengue outbreaks.

Keywords: Data mining, Time Series, Dengue, Prediction.

1. Introduction

Outbreaks have a massive burden on public health systems, populations, and economies in most countries of the world. In the recent years, dengue has grown to be major epidemic across the world.

According to World Health Organization (WHO), the incidence of dengue has grown dramatically around the world in the recent decade. The disease is now endemic in more than 100 countries [1]. It is estimated that there are over 50-100 million cases of dengue worldwide each year, with 3 billion people living in dengue endemic countries. The number of cases reported increased from 2.2 million in 2010 to 3.2 million in 2015. An estimated 500 000 people with severe dengue require hospitalization each year, a large proportion of whom are children. About 2.5% of those affected die. Not only is the number of cases increasing as the disease spreads to new areas, but explosive outbreaks are occurring. Figure 1 shows a plot of the dengue alerts for the past one week.

A New Method for improving resolution of Nuclear ADC for high resolution Spectroscopy System

Publisher: IEEE Institute of Electrical and Electronics Engineers

Asma Parveen I. Siddavatam ; P. P. Vaidya ; J. M. Nair All Authors

Abstract:
In this paper, a new method called as dynamic estimation method is proposed that improves the resolution of standard 8K Multichannel analyzer. It is based on the concept of dynamic estimation of peak of the nuclear pulses. Dynamic estimation method is advantageous since it results in reduction of nonlinearity error without increasing the conversion time of existing the spectroscopy systems significantly compared to the existing conventional or digital spectroscopy systems as described in the literature. The system makes use of low-resolution nuclear ADC, which has been designed using any conventional technique to improve its resolution. The circuit has been designed based on the proposed method and has been simulated using Multisim software. Relationship between various parameters like resolution, estimation error and nonlinearity error of the system are discussed and results are presented in the paper.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

Date of Conference: 4-5 Jan. 2019

INSPEC Accession Number: 19245648

Date Added to IEEE *Xplore*: 02 January 2020

DOI: 10.1109/ICNTE44896.2019.8945973

ISBN Information:

Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

The last couple of decades have witnessed a steep rise in extensive research in the field of high-resolution nuclear pulse spectroscopy systems. In these systems the peak height

Real-Time Human Activity Generation using Bidirectional Long Short Term Memory Networks

Publisher: IEEE

Cite This

PDF

Vivek Aswal ; Vineet Sreeram ; Aishwarya Kuchik ; Simran Ahuja ; Himali Patel All Authors

Abstract:
Human activity recognition (HAR) has extensive real-life applications. Most of the current HAR researches are based on machine learning and deep learning approaches to multi-sensor data. These approaches particularly focus on feature extraction techniques and tune hyperparameters of the network. However, these techniques exclude the size of the dataset into consideration, which is a critical performance indicator. In this paper, the open-source tri-axial accelerometer WISDM dataset has been used for simulation and Bidirectional Long Short-Term Memory (LSTM) networks have been proposed for data generation. For finding out the similarity between the generated and the original data, the losses for each of the activities have been calculated. To evaluate the effect of generated data on performance, an activity classifier has been developed which shows that the generated data has helped to increase the overall accuracy by 4% having the best recognition accuracy as 94.1%.

Published in: 2020 4th International Conference on Intelligent Computing and Control Systems (ICICCS)

Date of Conference: 13-15 May 2020

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INSPEC Accession Number: 19711173

DOI: 10.1109/ICICCS48265.2020.9121096

Publisher: IEEE

Conference Location: Madurai, India

I. Introduction

In the modern era of smart devices, such as mobile phones and smartwatches, consists of several sensors like accelerometer, gyroscope, heart rate monitor, etc. can be used for human activity and behavioral analysis. The traditional examples include healthcare monitoring, lifelogging, tracking an individual's movement, and security applications. With the emergence of rapidly evolving machine learning, the recognition of these user

Design of a Universal Partial Discharge Simulator

Publisher: IEEE

Cite This

PDF

Lekshmi A. Kaimal ; Himanshu J. Bahirat ; Prakash P. Vaidya ; Shrikrishna V. Kulkarni All Authors

Abstract:
The processes of inception, growth, and propagation of Partial Discharge (PD) along the dielectric are complicated. Their analysis requires a thorough understanding of underlying physics. A software simulation tool has been developed to study typical PD processes. The simulator generates pulses of varying amplitudes, shapes and time of occurrence of pulses observed in practice using National Instruments LabVIEW software as a base platform. The rise time of PD pulses plays an important role in the characterization of PD. The rise time formulation has been attempted based on the approach using the dipole moment development and law of conservation of energy. PD phenomenon is usually studied with the assumption of an air-filled void being energized by parallel plate/ coaxial cylinder electrode configuration. An SF_6 -filled spherical void inside a dielectric between two coaxial cylinder electrode plates is used as another configuration. Phase-resolved partial discharge (PRPD) pattern and the characteristics of PD pulses simulated are in agreement with results reported in literature. The contribution of this paper is versatility of the simulator for detailed study and comprehensive analysis of PD without the use of high voltage (HV) setup.

Published in: 2019 IEEE 4th International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)

Date of Conference: 21-23 Nov. 2019

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INSPEC Accession Number: 19608527

DOI: 10.1109/CATCON47128.2019.CN0014

Publisher: IEEE

Conference Location: Chennai, India

I. Introduction

The major reason for sudden breakdown of HV equipment in service is the insulation or dielectric breakdown which is normally preceded by presence of repetitive discharges, each of which further deteriorates the insulator [1]. These discharges are referred to as

A New Method of Time Interval Measurement With High Resolution Over Wide Dynamic Range for Nuclear Timing Spectroscopy Applications

Kanchan Chavan ; P. P. Vaidya ; J. M. Nair All Authors

Abstract:
The paper describes a new method for time interval measurement for high resolution nuclear timing spectroscopy system. Unlike the conventional method described in this paper, the method makes use of high resolution (16 bit ADC) with low conversion time of nearly 1 µs along with a linear ramp which is generated at the instant of START pulse. The ramp output is sampled at the instant of STOP pulse and digitized with this ADC to measure the time interval with resolution of 16 bit. The system has been constructed using micro-controller based PC interface circuit and results have been reported in this paper. The system offers high resolution of 390 ps with wide range of 25.6 µs.

Published in: 2019 IEEE 5th International Conference for Convergence in Technology (I2CT)

Date of Conference: 29-31 March 2019

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ISBN:978-1-5386-8076-6

INSPEC Accession Number: 19453498

DOI: 10.1109/I2CT45611.2019.9033681

Publisher: IEEE

Conference Location: Bombay, India

I. Introduction

Time interval (TI) measurements between two physical events is frequently needed in many applications in science and industry, e.g. Nuclear Timing Spectroscopy system as shown in Fig. 1, the time interval between two physical events needs to be measured.

Detection of Cardiomegaly from Chest X-rays using Otsu Algorithm and Convolutional Neural Network

Publisher: IEEE

Saish Mohare ; Heena Dawani ; Varun Rathi ; Sangeeta Oswal All Authors

Abstract:
This paper proposes an automated classification method of chest x-rays and combines image processing and deep learning to do the same. A convolutional neural network has been used for the purpose of image classification. The experimental results are computed by using the NIH chest x-rays dataset from Kaggle. The results, when compared to benchmark algorithms, indicate that the 8-layered convolutional neural network considerably increases the accuracy in general. Image processing makes the chest x-ray images binary, making the classification much more efficient.

Published in: 2019 IEEE 5th International Conference for Convergence in Technology (I2CT)

Date of Conference: 29-31 March 2019

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INSPEC Accession Number: 19453329

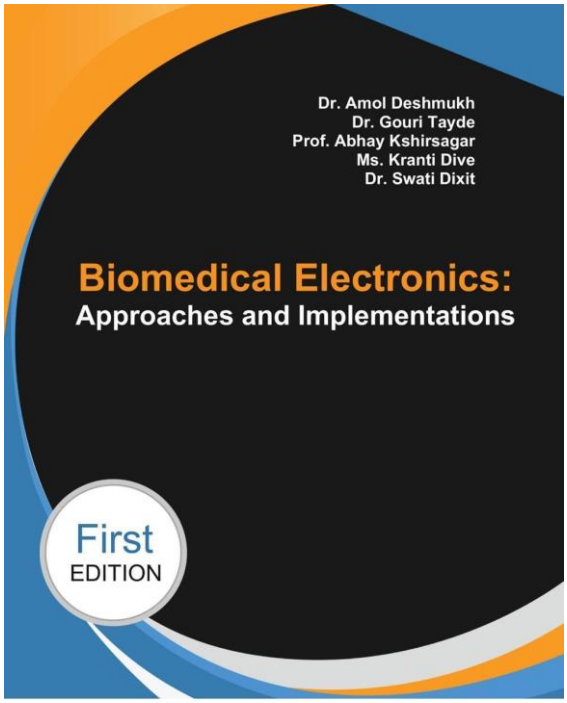
DOI: 10.1109/I2CT45611.2019.9033786

Publisher: IEEE

Conference Location: Bombay, India

I. INTRODUCTION

Cardiomegaly is the abnormal enlargement of the heart which can be caused due to a variety of causes such as hypertension or coronary artery disease. This hinders the blood functioning capability of the heart and it can also cause congestive heart failure. Many



BIOMEDICAL ELECTRONICS:
APPROACHES AND IMPLEMENTATIONS

First Edition

Dr. Amol Deshmukh
Dr. Gouri Tayde
Prof. Abhay Kshirsagar
Ms. Kranti Dive
Dr. Swati Dixit

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First Print: May 2020

Authors:

Dr. Amol Deshmukh
Principal,
Nagpur Institute of Technology, Nagpur

Dr. Gouri Tayde
MBBS, DGO, MD Paediatrics
Assistant Professor- Paediatric Department
NKP Salve Institute of Medical Sciences, Nagpur

Prof. Abhay Kshirsagar
Associate Professor
Department of Electronics Engg.
Vivekanand Education Society's Institute of Technology, Mumbai

Ms. Kranti Dive
Former Asst. Prof.
MIT College of Engineering, Pune

Dr. Swati Dixit
Associate Professor,
Department of ETC,
G H Raisoni Institute of Engineering and Technology, Nagpur

Image Processing Techniques for Analysing Food Grains

Publisher: IEEE

Cite This

PDF

Harpreet Singh ; Chander Singh Rawat ; Charmesh Verma All Authors

Abstract:
Food consumed in daily diet consists of fruits, cereal grains and spices. Cereal grains are considered to be the most important part as it meets the nutrition needs of the human population. It is necessary to check the quality of food before consuming as it directly impacts on health. Amongst the various food analysis techniques this paper focuses on a semi-automated, an image processing and two machine learning techniques with their advantages and limitations.

Published In: 2019 3rd International Conference on Computing Methodologies and Communication (ICCMC)

Date of Conference: 27-29 March 2019

INSPEC Accession Number: 18958262

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Publisher: IEEE

Conference Location: Erode, India

I. Introduction

Food grains are rich in vitamins, nutrients, minerals and dietary fibres all of which may have individual, synergetic or additive actions that positively affect human health. Also,

Recent Trends in Person Re-identification from Videos

Publisher: IEEE

Cite This PDF

Ankit R. Hendre ; Nadir N. Charniya All Authors

Abstract:
The purpose of Person re-identification is to locate a targeted person from a given image or video obtained from different camera feeds. There is a lot of research going on in the field of computer vision especially on Person re-identification. The conventional method used were template matching techniques. Due to the availability of high-end computing systems and large datasets, the person re-identification system works very well as the features extracted after the images are pre-processed, which almost solve the problems related to illumination variation, pose variation and occlusion. This paper discusses the related work and recent techniques used for person re-identification such as Histogram of Gradients, Scale Invariant Feature Transform, Local Binary Pattern, and deep learning methods.

Published in: 2019 International Conference on Intelligent Computing and Control Systems (ICCS)

Date of Conference: 15-17 May 2019

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INSPEC Accession Number: 19531934

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Publisher: IEEE

Conference Location: Madurai, India

I. Introduction

In today's digital era of emerging technologies, one of the main concern is security and improving security for surveillance purpose. CCTV cameras are deployed at every corner of the building. The data gathered by all the cameras is very large. It requires too much effort for human monitoring as [Sign in to Continue Reading] ossible to monitor such huge amount of data. Sometim biased. Intelligent surveillance system makes it possible to handle the issue. Many types of cameras are

International Conference on Innovative Data Communication Technologies and Application

ICIDCA 2019: Innovative Data Communication Technologies and Application pp 380-387 | Cite as

Person Re-identification from Videos Using Facial Features

Authors Authors and affiliations

Ankit Hendre, Nadir N. Charniya

Conference paper

First Online: 31 January 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 46)

Abstract

To precisely re-identify a person is a daunting task due to various conditions such as pose variation, illumination variation, and uncontrolled environment. The methods addressed in related work were insufficient for correctly identifying the targeted person. There has been a lot of exploration in the domain of deep learning, convolutional neural network (CNN) and computer vision for extracting features. In this paper, FaceNet network is used to detect face and extract facial features and these features are used for re-identifying person. Accuracy of FaceNet is compared with Histogram of Oriented Gradients (HOG) method. Euclidean distance is used for checking similarity between faces.

Keywords

Re-identify Deep learning Convolutional neural network Computer vision Histogram of oriented gradients

International Conference on Innovative Data Communication Technologies and Application

ICIDCA 2019: Innovative Data Communication Technologies and Application pp 213-221 | Cite as

Face Swapping Using Modified Dlib Image Morphology

Authors Authors and affiliations

Anjum Rohra, Ramesh K. Kulkarni

Conference paper

First Online: 31 January 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 46)

Abstract

Morphing is an image processing technique used for the metamorphosis from one image to another. Apart from its application in entertainment industry, image morphing is also used in computer based trainings, electronic book illustrations, presentations, education purposes etc. The idea is to get the transition from source image to target image with maximum matching. To accomplish this, Image Morphing has gained attention from multimedia users and entertainment seekers in order to obtain fancier transitions and animations. The proposed Face Swapping technique is used to transform the source image to target image and vice-versa. The results are compared to the available pre-trained Dlib model for landmarks and the results are most encouraging. The landmarks highlight the important facial attributes.

Survey on Recent trends in Image Morphing Techniques

Publisher: IEEE

Cite This

PDF

Anjum I Rohra ; Ramesh K. Kulkarni All Authors

Abstract:
To accomplish this, Image Morphing has attracted a lot of attention from multimedia users and entertainment seekers in order to obtain fancier transitions and animations. The current trends in Morphing are Cross Dissolving, Mesh Warping, Field Morphing and Transition Control. These trends work on the important facial features by extracting the Landmarks (control points). These landmarks highlight the important facial attributes. The landmarks can be extracted either manually or by using a pre-trained Dlib model for landmarks. In this paper, various trends that are recently adapted for Image Morphing are reviewed.

Published in: 2019 International Conference on Smart Systems and Inventive Technology (ICSSIT)

Date of Conference: 27-29 Nov. 2019

INSPEC Accession Number: 19342300

Date Added to IEEE *Xplore*: 10 February 2020

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Print on Demand(PoD) ISBN:978-1-7281-2120-8

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Traditionally, the animations created in film industry were merely simple replacement of one image by another. Such animations were not visually appealing to human eyes due

Emerging Research in Computing, Information, Communication and Applications pp 589-599 | Cite as

Optimal Thresholding in Direct Binary Search Visual Cryptography for Enhanced Bank Locker System

Authors Authors and affiliations

Sandhya Anne Thomas, Saylee Gharge

Conference paper
First Online: 11 September 2019

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 906)

Abstract

Visual cryptography (VC) is one of the strongest cryptographic method present. The main advantage of this system is that the decryption doesnot need any specific requirements for decoding other than human eyes. Using halftoning techniques binary images are obtained for grayscale and color images, this technique is applied in Halftone VC. In this paper, direct binary search (DBS) is implemented and initial images are modified for better quality of recovered images. The concept is proposed for bank locker systems. Comparison has been made using parameters like PSNR, Correlation, UQI and SSIM.

Keywords

Visual cryptography | Halftone visual cryptography | Direct binary search | Color images | Bank lockers | Security

Emerging Trends in Photonics, Signal Processing and Communication Engineering pp 99-105 | Cite as

Halftone Visual Cryptography for Color Images Using Error Diffusion and Direct Binary Search

Authors Authors and affiliations

Sandhya Anne Thomas, Saylee Gharge

Conference paper
First Online: 21 April 2020

Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 649)

Abstract

Visual cryptography is a cryptographic technique which enhances the security of the image and uses the characteristics of human vision to decrypt encrypted images. Halftone Visual Cryptography uses halftoning techniques for converting the color image into binary images. The problem of encoding color image into *n* shares of meaningful halftone images is considered in this paper. The halftone techniques used are Error Diffusion and Direct Binary Search. Using these techniques, a secret pixel of a color image can be encoded into shares. These two techniques are compared on the basis of Peak to Signal Noise ratio (PSNR), Correlation, Universal Quality Index (UQI) and Structural Similarity (SSIM).

Keywords

Visual cryptography | Halftone | Error diffusion | Direct binary search | Extended visual cryptography

Data Forensics On Social Media

Publisher: IEEE

Cite This

PDF

Mannat Amit Doultani ; M. Vijayalakshmi All Authors

Abstract:
Authorship Attribution (AA), is a process to identify an author based on input text data given to the system based on its characteristics is a problem with a long history. In this project, we study the problem of authorship attribution for forensic purposes and present machine learning techniques and stylometric features of the author tweets. For this purpose micro-blogging site Twitter is taken for experimentation purpose. On this site people share their ideas, likes, dislikes, interest, opinion, thoughts in the form of short messages called tweets. More than thousand tweets are posted every second and the possibility of sensitive, illicit text sharing cannot be ignored. This system downloads live twitter tweets, and takes text file as the input. The text file contains tweets of random author. Our system finds that that tweet downloaded belongs to which author. For classification of the author some important features are used. Important features include calculation of smiley, calculation of stop words, calculation of punctuations, and calculation of similarity words. Basically this system is divided into two stage process, where in the first stage, stylometric information is extracted from the collected dataset and in the second stage classification algorithm is trained to predict authors of unseen text. The effort is to find out which combination of features help in accurate prediction of the author thus maximizing the accuracy of predictions with optimum amount of data.

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Publisher: IEEE

Conference Location: Bombay, India

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ISBN:978-1-5386-8076-6

I. Introduction

The recent development in Information Communication technology (ICT) has made changes in every aspect of our life. These changes are taking us towards the dream of "Digital India". The positive influence of Digital world on knowledge, trade and business and communication is no dou

ide of it deteriorates its peaceful usage that is Digital Crimes. Digital crimes are defined as any illegal activities

A novel way of uniform amplitude generation for calibration and testing of high-resolution nuclear spectroscopy systems

Publisher: IEEE

Cite This PDF

Ajit Tukaram Patil ; Asma Parveen I. Siddavatam ; P. P. Vaidya All Authors

Abstract:
This paper presents a new method of uniform amplitude generation for calibration and testing of high-resolution nuclear spectroscopy systems using a new method of DAC interpolation. The uniform amplitude generator (UAG) is designed to generate pulses whose amplitude can be controlled in steps of 10 μV in the range of 0 to 10V. The designed circuit is simulated using Multisim v14.0 software. It is suitable to calibrate the spectroscopy systems with the resolution of as high as 13-bit. The uniform amplitude generator (UAG) is also modified using a sliding technique which slides the pulses in steps of 1 μV to make it capable for testing spectroscopy systems with resolution of up to 16-bit.

Published in: 2019 2nd International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICICT)

Date of Conference: 5-6 July 2019

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Print on Demand(PoD) ISBN:978-1-7281-0284-9

INSPEC Accession Number: 19424785

DOI: 10.1109/ICICICT46008.2019.8993201

Publisher: IEEE

Conference Location: Kannur, India

I. Introduction

Calibration is one of the important process which is used to validate the accuracy of an instrument. In the field of nuclear experiments, regular check and calibration of multi-parameter setup is necessary for accurate results. Conventional method of calibration requires proper radiation dete[Sign in to Continue Reading]reference radiation sources, suitable detector, pre[Sign in to Continue Reading]ectrum analyzer such as Multichannel Analyzer (MCA) as shown in Fig. 1 [1]. Fig. 1.

Home > AIP Conference Proceedings > Volume 2166, Issue 1 > 10.1063/1.5131598

Free . Published Online: 25 October 2019

Performance analysis of 2D photonic crystal with line defect

AIP Conference Proceedings **2166**, 020011 (2019); https://doi.org/10.1063/1.5131598

Karuna Gamare[a] *and* Ranjan Bala Jain[b]

View Affiliations

TOPICS

- Crystal lattices
- Crystallographic defects
- Photonic crystals
- Finite-element analysis

ABSTRACT

Photonic crystal is a periodic arrangement of dielectric rods positioned in air at optimal spacing. Photonic crystal properties depend on the geometrical parameters such as material, radius of rods, lattice constant etc. This paper examines Photonic Band Gap (PBG) due to change in radius of rods and lattice constant of 2D photonic crystal structure. A detailed study of the PBG of 2D photonic crystal structure has been presented using Finite Element Method (FEM). A line defect is introduced into the photonic crystal structure and its impact on PBG has been investigated. The results show that after increase in radius of rods PBG becomes wider, whereas increase in lattice constant decreases the width of bandgap.

REFERENCES

1. Joannopoulos, John D., Pierre R. villeneuve, and Shanhui Fan. "Photonic crystal: Putting a new twist on light." Nature **386**, no.

Performance Analysis of 2D Photonic Crystal with Line Defect

Karuna Gamare[a)] and Ranjan Bala Jain [b)]

Department of Electronics and Telecommunication Engineering,
Vivekanand Education Society's Institute of
Technology, University of Mumbai,
India.

[a)] Corresponding author: 2017karuna.gamare@ves.ac.in
[b)] ranjanbala.jain@ves.ac.in

Abstract. Photonic crystal is a periodic arrangement of dielectric rods positioned in air at optimal spacing. Photonic crystal properties depend on the geometrical parameters such as material, radius of rods, lattice constant etc. This paper examines Photonic Band Gap (PBG) due to change in radius of rods and lattice constant of 2D photonic crystal structure. A detailed study of the PBG of 2D photonic crystal structure has been presented using Finite Element Method (FEM). A line defect is introduced into the photonic crystal structure and its impact on PBG has been investigated. The results show that after increase in radius of rods PBG becomes wider, whereas increase in lattice constant decreases the width of bandgap.

INTRODUCTION

A photonic crystal is a periodic structure of different dielectric constants that affects the properties of photons. These structures can be used to control and manipulate the propagation of light. The devices based on these structures give higher speed than semiconductor-based devices due to less interaction of photons to neighbouring particles in comparison to electrons. Photonic crystal instruments have several advantages like small size, portability, high sensitivity, accurate ability for real-time monitoring and cost-effective than other instruments [1], [2].

Photonic crystals have many different properties such as Photonic Band Gap (PBG), the control of spontaneous emission, and the construction of ultracompact lightwave circuits [3]. The most important property of the photonic crystal is PBG. It is the range of frequency where the light cannot propagate through photonic crystal. These structures can be utilized for many applications such as sensors [4], [5], photonic switches [6], multiplexers, optical power dividers and gate [7] and waveguides [8] for sensing applications.

Photonic crystals are classified into three types such as one dimensional (1D), two-dimensional (2D) and three-dimensional (3D) structures [2], as shown in Figure 1. 1D photonic crystal is limited in one dimension in space. It is used as a perfect mirror. It is of low cost and easy for fabrication but suffers from angular resolution. 3D photonic crystals are confined in three dimensional space. They are used in many applications because of the best control over photons in space and time. But 3D photonic crystals are complicated in fabrication as compared to 1D and 2D photonic crystal. 2D photonic crystal structure is periodic in two directions, while in the third direction the medium is uniform. The 2D photonic crystal has more advantages over 1D photonic crystal such as a better degree of freedom and can be fabricated easily in comparison to 3D photonic crystal technologies. Therefore, 2D photonic crystals are preferred to be used in many industries and medical applications.

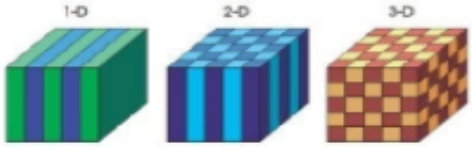

FIGURE 1: Photonic Crystal in 1D, 2D and 3D [2]

Photonic crystal has many characteristics such as location and size of PBG, which determine the transmission properties of a wave in the material. Different types of modelling methods are used to calculate photonic bandgap.

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International Conference on Innovative Data Communication Technologies and Application

ICIDCA 2019: Innovative Data Communication Technologies and Application pp 27-36 | Cite as

Macroscopic Characterization of Grating Coupled Waveguide Structures for Optical Notch Filtering

Authors Authors and affiliations

Aleena Devasia, Manisha Chattopadhyay

Conference paper

First Online: 31 January 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 46)

Abstract

The use of optical waveguide gratings that function as spectrally selective loss elements is discussed. The Wavelength Filtering capability of input grating coupled waveguide structure is demonstrated. In addition to the conventional function of such waveguide structures to couple an incident surface beam from an optical source like an optical fiber into a planar waveguide, a modified design to have a predetermined wavelength response of that of a notch filter has been modelled and analysed. The structure is designed for 1310 nm wavelength. An improved waveguide structure with addition of chirped grating section is modelled. Design of planar waveguide structures for optical notch filtering is assessed and its application in optical networking and communication systems is discussed.

Transmission and Reflection Grating coupled Optical Waveguide Structures

Publisher: IEEE

Cite This

PDF

Aleena Devasia ; Manisha Chattopadhyay All Authors

Abstract:
The use of dielectric gratings over thin-film waveguide structures to couple an incident surface wave into guided beam has been assessed. Guiding optical energy incident on surface of Grating coupled optical planar waveguide structures are presented with emphasis on the characteristics of different grating materials and structural parameters. Perturbation analysis of symmetric gratings that transfer energy of an incident beam into waveguide structures has been discussed with the help of macroscopic characterisation of the guiding properties. The pertinent transmission characteristics is investigated for planar waveguide structures with gratings having linear rectangular profiles using this analytical approach. These are essential considerations for design and optimization of devices for optical networking and communication and various other applications in fields of optoelectronics, medicine and optical sensing. An analysis of grating waveguide structures for transmission, reflection and absorption modes of operation is presented. Based on the observations and results, one can model grating coupled waveguide structures for different wavelengths and applications.

Published In: 2019 International Conference on Smart Systems and Inventive Technology (ICSSIT)

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Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Research and development of optical communication and sensing has been making progress with development of optical gratings. A prospective determination of the

Modelling of Grating based waveguide structures for Wavelength Division Multiplexing

Publisher: IEEE

Cite This

PDF

Aleena Devasia ; Manisha Chattopadhyay All Authors

Abstract:
The ability of grating based optical waveguide structures for Wavelength Division Multiplexing is demonstrated. In addition to the conventional function of an input grating coupled waveguide to couple an incident surface beam from an optical source like an optical fiber into a planar waveguide, a modified design to have a predetermined wavelength multiplexing response has been modelled and analysed. The structure is designed for 1550 nm wavelength and the separation between the wavelengths obtained is 10 nm. An improved waveguide structure of apodized grating profile along the waveguide is modelled for 1310 nm operation. There is a significant increase in the number of channels with an improved channel bandwidth.

Published in: 2019 International Conference on Smart Systems and Inventive Technology (ICSSIT)

Date of Conference: 27-29 Nov. 2019

INSPEC Accession Number: 19407631

Date Added to IEEE *Xplore*: 10 February 2020

DOI: 10.1109/ICSSIT46314.2019.8987587

ISBN Information:

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Ultra-broadband bandwidth used in optical integrated devices require large wiring density and high data rates causing the pin-bottleneck problem [3]. Modern optical communication systems demand simultaneous transmission of multiple wavelengths along a single optical waveguide to increase the capacity of the system, called

Medical Image Retrieval by Region Based Shape Feature For CT Images

Publisher: IEEE

Cite This

PDF

Dakshata Patil ; Shoba Krishnan ; Saylee Gharge All Authors

Abstract:
Content Based Image Retrieval (CBIR) is the huge field for image retrieval from the wide databases. It is one of the popular techniques from computer vision domain. CBIR consist of feature extraction followed by similarity comparison. Shape feature extraction can be made on two descriptors one is region based and other is contour based. This paper implements shape feature extraction with region based descriptors. Zernike moments and Hu's seven moments have been used as a feature extraction techniques and Support Vector Machine (SVM) is used as a classifier. Different distance metrics are then used for similarity comparison with these feature extraction methods for efficient results. For performance evaluation distance metrics used are Euclidean, Chebyshev, Cityblock, Canberra, Standardized Euclidean (Seuclidean). Medical database with 6 classes consist of 100 images each namely head, hip, shoulder, pelvis, knee, ankle is used. After obtaining all the experimental results in terms of precision and recall, a comparative study is made for selected database.

Published in: 2019 International Conference on Machine Learning, Big Data, Cloud and Parallel Computing (COMITCon)

Date of Conference: 14-16 Feb. 2019

Date Added to IEEE *Xplore*: 10 October 2019

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INSPEC Accession Number: 19060692

DOI: 10.1109/COMITCon.2019.8862446

Publisher: IEEE

Conference Location: Faridabad, India

On Stability and Scalability Enhancement in WSN

Publisher: IEEE

Meera R Pillai ; Ranjan Bala Jain All Authors

Abstract:
Real-time applications integrated with WSN can be utilized in a hazardous area for long or short term, large or small scale, data monitoring or data collection. In such applications, stable network is required which will provide continuous services and less maintenance. So a higher stable clustering algorithm called Stability and Scalability Enhancement algorithm (SASE) is introduced. In SASE, probability and density conditions are used for clustering. In order to analyze the efficiency of the SASE algorithm, it is compared with the existing algorithms and the results show that SASE achieves 24% of higher stability compared to Mean Random PSO and 50% higher stable from other routing algorithms.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

Date of Conference: 4-5 Jan. 2019

INSPEC Accession Number: 19245608

Date Added to IEEE *Xplore*: 02 January 2020

DOI: 10.1109/ICNTE44896.2019.8946115

ISBN Information:
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Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

Wireless Sensor Networks (WSN) can be defined as networks of tiny small, battery-powered, resource-constrained devices equipped with a CPU, sensors and transceivers

Fault Tolerant WSN with One Hop Boundary Detection

Publisher: IEEE Cite This PDF

Meera R Pillai ; Ranjan Bala Jain All Authors

Abstract:
Wireless sensor network (WSN) mainly consists of detecting devices which have limited power. When the energy gets exhausted, the data transmission in the network gets interrupted; this leads to consequences like risk for human lives, depletion of natural resources etc. In order to prevent such consequences, we propose an energy efficient fault tolerant One Hop Boundary Detection (OHBD) algorithm for WSN. The proposed algorithm is compared with an existing algorithm like BNFD and results show that OHBD achieves 40 % higher boundary stability with higher network lifetime compared to BNFD.

Published in: 2018 International Conference on Circuits and Systems in Digital Enterprise Technology (ICCSDET)

Date of Conference: 21-22 Dec. 2018

Date Added to IEEE *Xplore*: 02 September 2019

INSPEC Accession Number: 18971450

DOI: 10.1109/ICCSDET.2018.8821073

Publisher: IEEE

Conference Location: Kottayam, India

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ISBN:978-1-5386-0577-6

I. Introduction

In Wireless Sensor Network (WSN) large numbers of sen- sor nodes are distributed over a wide geographical area. Applications like surveillances [1][2], target tracking, disaster management[3][4], domestic purpose[5][6] etc. can be handled efficiently when integrated to WSNs. The issue[illegible]umption, fault tolerance, security, wire- less media, data collection and transmission, scalability, node deployment,

Analysis of Malicious Behavior of Blackhole and Rushing Attack in MANET

Publisher: IEEE

Alpana Kumari ; Shoba Krishnan All Authors

Abstract:
Mobile Adhoc Network (MANET) are the networks where network nodes uses wireless links to transfer information from one node to another without making use of existing infrastructure. There is no node in the network to control and coordinate establishment of connections between the network nodes. Hence the network nodes performs dual function of both node as well as router. Due to dynamically changing network scenarios, absence of centralization and lack of resources, MANETs have a threat of large number of security attacks. Hence security attacks need to be evaluated in order to find effective methods to avoid or remove them. In this paper malicious behavior of Blackhole attack and Rushing attack is studied and analyzed for QoS metrics.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

Date of Conference: 4-5 Jan. 2019

INSPEC Accession Number: 19245572

Date Added to IEEE *Xplore*: 02 January 2020

DOI: 10.1109/ICNTE44896.2019.8946052

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Electronic ISBN:978-1-5386-9166-3
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Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

Mobile Adhoc Networks (MANET) [1] are self-governing and self-configuring networks where nodes are moving randomly. The central node is absent to coordinate the movement of nodes across the network. Nodes in this type of networks are connected through wireless links. This type of networks are equipped in the areas which lack infrastructure. There are a lar[illegible] MANET which are used to connect source to destinati[illegible]ar is Adhoc on demand

A Survey of Recent Advances in Crowd Density Estimation using Image Processing

Publisher: IEEE

Cite This

PDF

Komal R Ahuja ; Nadir N. Charniya All Authors

Abstract:
Crowd analysis is an essential topic of research in artificial intelligence. There are several applications on crowd analysis, such as, environmental management, urban planning and public safety. This paper presents review of different methodologies those have been implemented for estimating crowd. This paper covers several methods of crowd density estimation, such as, image processing techniques, machine learning and deep learning based technique, and smartphone based technique.

Published in: 2019 International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 17-19 July 2019

Date Added to IEEE *Xplore*: 20 February 2020

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INSPEC Accession Number: 19379574

DOI: 10.1109/ICCES45898.2019.9002291

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

With the increase in human population, crowd gathering takes place at many public places such as rail, maglev, metro, stadium, marathon etc. So there is a risk of stampedes. Various incidents took place because of overcrowd such as in 2005, more than 640 people died in Religious procession at Baghdad, In 2013, 115 people died in Hindu Festival at Datia District, in 2014, during Dussehra festival in India around 32 people died and in 2017, 23 people died at Elphinston Road Mumbai [1], [2]. Due to such incidents, there is a requirement of some efficient and effective crowd density estimation and crowd management techniques. Estimating crowd density is of great importance, as it can prevent stampede. Traditionally, human operators were required for continuously

International Conference on Innovative Data Communication Technologies and Application

ICIDCA 2019: Innovative Data Communication Technologies and Application pp 204-212 | Cite as

Design of Near Optimal Convolutional Neural Network Based Crowd Density Classifier

Authors Authors and affiliations

Komal R. Ahuja, Nadir N. Charniya

Conference paper

First Online: 31 January 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 46)

Abstract

Crowd density estimation and crowd counting has acquired importance towards Machine learning and Deep learning industry due to the improvement in performance, when compared to traditional computer vision techniques. This paper presents deep learning based optimal dimension convolutional neural network (CNN) for estimating crowd density, which is used to classify images of crowd into various density levels such as low crowd, very low crowd, moderate crowd, high crowd, very high crowd. This approach is experimented on existing datasets and gives the better accuracy with optimum network dimensions.

Keywords

Crowd density estimation | Convolutional neural network architecture | Deep learning

Emerging Trends in Photonics, Signal Processing and Communication Engineering pp 39-46 | Cite as

Photonic Crystal Based Protective Shield for Medical Treatment with Phototherapy

Authors Authors and affiliations

S. Amuthavalli, Manisha Chakraborti (Manisha Chattopadhyay), Tapanendu Kundu

Conference paper
First Online: 21 April 2020

Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 649)

Abstract

Photonic crystals are optical materials with repeating structures that have specific filtering characteristics, among other properties. The impact of materials, periodicity, and thickness of one-dimensional photonic crystal layer on modeling of light is analyzed using Comsol simulations which are based on Finite Element Method (FEM). The influence on the behavior of light transmission characteristics by breaking the periodicity is also observed. In this paper, narrow transmission of photons selectively in the range 311–313 nm is obtained by appropriate inclusion of defect. And also blockage of remaining Ultra Violet (UV) radiation is attained. Phototherapy requires this radiative property for the treatment of Psoriasis. Photonic crystal as a protective shield for psoriasis phototherapy to make it safe and effective is proposed in this paper.

Modelling of Optical Multiplexer using Chirped Apodized Photonic Crystal Nanostructure

Publisher: IEEE

Amuthavalli S ; Manisha Chakraborti All Authors

Abstract:
This paper highlights the light transmission characteristics of uniform and nonuniform patterned one-dimensional photonic crystals in the Infra Red region. In this paper, a novel structure using the chirped and apodized concept with center symmetric for designing optical multiplexer is proposed. More number of Resonant Transmission is obtained using this structure. It is proposed that based on the number of periods, different 2 x 1, 3 x 1, 4 x 1 and 5 x 1 multiplexer can be modelled. Also based on the application requirement, the multiplexer can be designed for any wavelength is proposed in this paper.

Published in: 2018 International Conference on Circuits and Systems in Digital Enterprise Technology (ICCSDET)

Date of Conference: 21-22 Dec. 2018

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INSPEC Accession Number: 19024825

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Publisher: IEEE

Conference Location: Kottayam, India

I. INTRODUCTION

In the communication system, semiconductors play a significant role until the last century. Since the electronic component performances are limited, it is required to change the network in the optical domain. Optical Networks are in high demand for transmitting the

Detection of Faulty Integrated Circuits in PCB with Thermal Image Processing

Publisher: IEEE

Cite This

PDF

Akshay A. Sarawade ; Nadir N. Charniya All Authors

Abstract:
Developing a system which can be used for detection of faulty Integrated circuits (ICs) is one of the major challenge in electronic industry. Heating in ICs due to various reasons which may lead to degradation of performance and can cause serious hazardous effects in Printed Circuit Boards (PCB). Thermal image processing is one of the best non-contact, non-invasive method which can be used for IC fault detection. The paper aims towards detection of faulty ICs in PCB with help of thermal imaging camera and image processing techniques. Thermal images of sequence detector circuit for different fault conditions are collected. Image matching is achieved by comparing features of training images and test image using Speeded-Up Robust Features (SURF) algorithm. The system will indicate image belongs to particular fault class. The proposed method detects and classify possible faulty IC conditions with improved accuracy and can also help in early prevention remotely before complete circuit failure.

Published in: 2019 International Conference on Nascent Technologies in Engineering (ICNTE)

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ISBN:978-1-5386-9167-0

Publisher: IEEE

Conference Location: Navi Mumbai, India

I. Introduction

In recent years, advancements in technology lead to a tremendous increase in capabilities and complexities of PCB. As the size of circuits goes on shrinking, it is impossible to know if any fault exists in ICs present on PCB just by visual inspection. Visual inspection method is quite time consuming and not accurate. The conventional methods can create problems in fault

International Conference on Innovative Data Communication Technologies and Application

ICIDCA 2019: Innovative Data Communication Technologies and Application pp 388-394 | Cite as

Analysing Timer Based Opportunistic Routing Using Transition Cost Matrix

Authors Authors and affiliations

Chinmay Gharat, Shoba Krishnan

Conference paper

First Online: 31 January 2020

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 46)

Abstract

For some wireless sensor network applications, Energy consumption and Delay are important parameters for selecting routing scheme. To date, there has not been any simple analytical method to calculate these parameters. Analytical method proposed in this paper uses transition cost matrix and existing Markov model with slight modifications to calculate average energy consumption and average end to end delay. This method is developed only for timer based opportunistic routing scheme, this scheme synchronises neighbour nodes using waiting time, where waiting time is calculated using specified parameter. Analytical results obtained from this method are compared with simulation results, exhibiting minimal difference between them. The proposed method gives accurate results and is easier to implement than previously

Effects of Duplicate Packet Transmission in Timer based Co-ordination Opportunistic Routing Scheme

Publisher: IEEE

Cite This PDF

Chinmay Gharat ; Shoba Krishnan All Authors

Abstract:
In general, Energy consumption and network throughput (NT) are the most important network performance parameters. Wireless sensor network (WSN) applications having low packet generation rate deploy less expensive nodes will have limited battery life and processing capability. Timer based co-ordination (TBC) scheme for Opportunistic Routing (OR) protocol is an attractive prospect for such applications due its inherent capability to co-ordinate transmissions without any need of control signals. In this paper we study problems of duplicate packet transmission occurring in TBC and its effect on performance of a one dimensional (1-D) queue network for various prioritization parameters. We analyze performance of prioritization parameters used in the most forward progress algorithm (MFR), Optimum distance algorithm (OPD) and energy saving via opportunistic routing algorithm (ENS_OR) and conclude that linear mapping of priorities to waiting time causes duplicate packet transmissions resulting in reception of duplicate packets at the sink leading to increased energy consumption and reduction in network throughput.

Published in: 2019 International Conference on Smart Systems and Inventive Technology (ICSSIT)

Date of Conference: 27-29 Nov. 2019

INSPEC Accession Number: 19352400

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Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Routing helps to establish communication in WSN. Routing for WSN is categorized into:

Waveform Libraries of Radar

Publisher: IEEE

Cite This

PDF

Sheetal Kokate ; ChandanSingh D. Rawat All Authors

Abstract:
The flexibility in the selection of waveforms indicates the performance of Radio Detection and Ranging(RADAR) system. These waveforms help in separation and identification of two targets, which are closely spaced in range or traveling near to each other by the the same speed. So,the waveforms should be checked for determination of its resolution and ambiguity in both the range and speed. In Radar, the range is measured using delay and speed by using the doppler shift. In this paper, the rotatable waveforms are generated with help of Fractional Fourier Transform(FRFT),and by using Frank code/Barker code. Different parameters such as delay resolution, doppler resolution are compared using an ambiguity function.

Published in: 2019 International Conference on Advances in Computing, Communication and Control (ICAC3)

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INSPEC Accession Number: 19454753

DOI: 10.1109/ICAC347590.2019.9036798

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Working of Radar is based on transmission and reception of pulses for determination of range and speed of the target. Many advanced technologies have been invented in field of radar. The environment in which radar operates today is very hostile due to various

Determination of Rice kernel Parameters using Image Processing

Publisher: IEEE

Cite This

PDF

Harpreet Singh Ghuman ; Chandan Singh Rawat ; Dharmesh Verma All Authors

Abstract:
Rice is the most widely consumed staple food across the world. Individual kernel investigation is important for the quality analysis of a given sample. The manual technique for the same is time consuming and tedious approach. The results of manual analysis depend on the skill, attitude and vengeance of a quality inspector. An image processing technique provides a quick and easy means of investigating rice parameters. This paper presents the procedure for calculation of length, width and colour of rice kernels using image processing. The manifestation of proposed grain analyser set-up capable of analysing grain sample from all possible side is explained. The classification of seeds according to Cambodia standard is also illustrated in this paper.

Published in: 2019 International Conference on Intelligent Computing and Control Systems (ICCS)

Date of Conference: 15-17 May 2019

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Print on Demand(PoD) ISBN:978-1-5386-8114-5

Publisher: IEEE

Conference Location: Madurai, India

I. Introduction

Rice is the grain of the grass species Oryza glaberrima (African rice) or Oryza sativa (Asian rice). As a cereal grain, it is the most widely consumed staple food for a large part

Publications
for
Academic Year: 2018-19

Performance Evaluation of Load Balancing Algorithms for SDN

Nupur Giri ; Vikas Kukreja ; Dinesh Panchi ; Jatin Sajnani ; Hitesh Seedani All Authors

Abstract:
SDN is the only domain which brought the programmability, simplicity, and flexibility to the networks. Using SDN, the same architecture can be used for many applications like switches, routers, hubs, etc. This versatility of architecture was never before seen in any domain which makes SDN the future of networking. Today due to the increase in the service requirement there is more load on the server this may result in Latency/Delay or sometimes the link failure or server crash. To avoid this latency or link failure or server crash there must be a Load Balancer between the client and server to handle this load. In this project a topology is created and different load balancing applications are deployed to evaluate their performance.

Published in: 2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA)

Date of Conference: 16-18 Aug. 2018

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INSPEC Accession Number: 18617850

DOI: 10.1109/ICCUBEA.2018.8697762

Publisher: IEEE

Conference Location: Pune, India

I. Introduction

Software Defined Networking (SDN) is a revolutionary networking technology that

l Plane and Data Plane

Author Identification using Stylometry

Publisher: IEEE

Cite This

PDF

Sujata Khedkar ; Shashank Agnihotri ; Anshul Agarwal ; Mahak Pancholi ; Pooja Hande All Authors

Abstract:
"Every person is unique", we have been hearing this since ages. Every person has a unique identity, a unique fingerprint, a unique retina and a lot more. These features playa vital role in identification of individuals for security purposes. Unfortunately, when it comes to security of written pieces or words from an individual, these primary unique identities are futile. One cannot identify a writer from a written piece of text on the basis of retina or fingerprint scans, sometimes even the signature can be forged, in such situations for security purposes and intellectual property rights it becomes very important to identify the true author. Stylometry plays an important role in this. Every author has a unique style of writing, measure of this style of writing is called Stylometry. This paper proposes to identify authors from text based on their style of writing. First a data set consisting of articles, short stories and emails will be used to train the system for multiple authors, then a random text would be given to the system to identify the author correctly, if the author predicted by the system is similar to the author claimed then the information is authentic otherwise the author claiming to be the writer is a fraud. For stylometry, over the ages, many features have been focused on, but this paper proposes new features to be used for this purpose. While writing, there are many unconscious styles that are incorporated by the author, these features have been unnoticed till date, but can playa vital role in accurate and fast identification of authors. These features include: `intellectual property right', `chapter length' and frequency of particular words per thousand words. The algorithms used to train the system can be Decision tree, Naive Bayesian or Multilayer Perceptron.

Published in: 2018 International Conference on Smart City and Emerging Technology (ICSCET)

Date of Conference: 5-5 Jan. 2018

Date Added to IEEE *Xplore*: 19 November 2018

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INSPEC Accession Number: 18237499

DOI: 10.1109/ICSCET.2018.8537362

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Various attempts have been made to identify author using stylometry. Most of the attempts made use of similar feature extractions but different data sets and algorithms. Every system had a drawback that couldn't be overlooked. Jose Hurtado, Nanat

Ek Ka Josh - Cloud-Based mobile application for NGOs

Publisher: IEEE

Cite This PDF

Aditya Pathak ; Shriram Rajaraman ; Sharmila Sengupta ; Atharva Pandit ; Rushi Yawalkar All Authors

Abstract:
The idea of bringing about a change in society and uplifting people is a very noble thought. At the same time, bringing about this change isn't easy. There are many organizations with such noble intentions, but they lack the resources to project these causes to potential donors. This has led to a lack of awareness among donors regarding such causes, creating a gap between donors and such organizations.This paper discusses the idea of Ek Ka Josh - an application which intends to bring the donors and the NGOs together. Ek Ka Josh will be a common portal for the NGOs as well as donors. NGOs will be able to upload causes for which they require support, and project them. Donors will be able to view these causes and commit amounts as low as 1 rupee. Ek Ka Josh thus has the potential to bridge the gap between donors and organizations, bringing about change in society. This paper also analyses the existing systems, the user survey, the answers to the questions put forth to the NGOs, tax exemptions, the proposed system design and how it tries to improve upon the existing systems.

Published in: 2018 International Conference on Smart Systems and Inventive Technology (ICSSIT)

Date of Conference: 13-14 Dec. 2018

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INSPEC Accession Number: 18796203

DOI: 10.1109/ICSSIT.2018.8748628

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

India is a country of huge contradictions. On one hand, India has the fastest growing list of millionaires [7] , and on the other hand, a large percentage of the population is barely able to afford two meals a day. While only a small section of the population has access to the finest services while the majority have access to services which can barely be termed primitive. Non-governmental d[illegible]e institutions have always tried to bridge this gap but it isn't always possible to gather the funds or

Private Digital Assistant for Alzheimer's Patients

Proceedings 2019: Conference on Technologies for Future Cities (CTFC)

4 Pages • Posted: 26 Mar 2019

Prashant Kanade
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering

Anish Vaidya
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering

Shubham Parulekar
University of Mumbai - Vivekanand Education Society's Institute of Technology (VESIT)

Dhiraj Sajnani
University of Mumbai - Vivekanand Education Society's Institute of Technology (VESIT)

Mohit Sajnani
University of Mumbai - Vivekanand Education Society's Institute of Technology (VESIT)

Date Written: March 23, 2019

Abstract

Alzheimer's is a progressive disease in which a person experiences memory loss in varying stages of severity. Currently, there is no cure for Alzheimer's; palliative care is available for the patients. A solution to help Alzheimer's patients for scene recognition is proposed here. The scenes may include classrooms, offices, homes, etc. We use Convolutional Neural Networks in order to achieve our proposed goal.

Keywords: Alzheimer, Digital Assistant, Scene Recognition

Saviour: Disaster Management and Monitoring Utility

5 Pages • Posted: 27 Nov 2018 • Last revised: 16 Dec 2018

Prashant Kanade
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering

Nitin Aswal
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering, Students

Ankur Gokhale
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering, Students

Hemangi Kadam
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering, Students

Vishakha Kumbhar
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering, Students

Date Written: October 31, 2018

Abstract

Every year, human-induced disasters result in infrastructural damages, monetary costs, distresses, injuries, and deaths. Anthropogenic hazards are hazards caused by human intervention. They are in contrast to natural hazards, and they may adversely affect humans and other organisms. They may also disrupt the working of ecosystem. In this context, Machine learning based disaster detection and management systems have been proposed to cope with disasters and emergencies by improving the disaster detection, search and rescue missions during disaster response. Crowdsourcing and Twitter sentiments are use for collecting disaster related information. This information is process by ML for disaster detection. Further process is related with disaster management. "Saviour" have collaboration with all emergency services. These services become available as fast as possible.

Keywords: Disaster Detection, Disaster Management, Crowdsourcing, Natural Language Processing

INPAINTING: A Proposal for Restoration of Corrupt or Missing Parts of a Face

Mahatma Education Society's Transactions and Journals' Conference Proceedings ISBN 978-93-82626-27-5 (2019)

5 Pages • Posted: 20 Feb 2019

Nayan Jain
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT) Students

Rohan Keswani
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT) Students

Harsh Mulchandani
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT) Students

Mitali Ochani
University of Mumbai, Vivekanand Education Society's Institute of Technology (VESIT), Department of Computer Engineering, Students

Anjali Yeole
University of Mumbai - Vivekanand Education Society's Institute of Technology (VESIT)

Date Written: November 29, 2018

Abstract

Miscreants often use concealment to avoid getting apprehended by law enforcement agencies. Any photographic evidence that is collected is repudiated because of the cover. In an alternate scenario, a person may get his face covered by some natural elements. These pictures are then rendered as waste as may result in us failing to capture some precious moments. To resolve this issue we use that concept of inpainting. Inpainting is the process of filling these missing or occluded part. We replace the occluded part with pixels that are semantically coherent and visually concise with neighbouring parts. We use the neural architecture called GANs for our project. This model is on par with many state-of-art learning techniques with an added advantage of not having to add any information about the missing part. We propose to help law enforcement agencies modernize and digitalize.

Keywords: Inpainting, Generative Adversarial Network, Neural Net

Deep Learning based approach to suggest recipes

Himanshu Rawlani ; Jayesh Saita ; Vignesh Zambre ; R.L. Priya All Authors

Abstract:
This paper proposes an application that suggests recipes based on an image, clicked by the user, which contains multiple vegetables or fruits. This image can be captured in various environments, lighting conditions and from different angles. To detect multiple vegetables a state-of-art Convolutional Neural Network (CNN) called Faster-RCNN is used. Faster-RCNN is deployed on an android application which in turn interacts with server to fetch the possible recipes. The server retrieves the recipes from database, filters it and then returns the list to the client application.

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ISBN:978-1-5386-1186-9

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

There have been many ideas on the internet about detecting or recognizing what the given food is and what are its components. There are very few machine learning classification applications which differentiate between vegetables and fruits. Hence, the

Machine Learning Solutions to Vehicular Traffic Congestion

Publisher: IEEE

Cite This PDF

Pavan Chhatpar ; Nimesh Doolani ; Sumeet Shahani ; R.L. Priya All Authors

Abstract:
Traffic management of metropolitan cities in India is becoming a challenging factor day by day. Traffic congestion and improper management leads to rise in accident cases in the city. Efficiency of existing traffic management solutions is decreasing, as the number of private vehicles is on the rise. In the context of increasing complexity of urban traffic and to reduce the accident rise, a machine learning solution is proposed. It provides predictive analysis of traffic in a given area using Supervised Learning techniques such as Back Propagation Neural Network (BPN). The work discusses about an android application that makes use of real-time traffic data and predicts the traffic densities of entire map area in an offline mode. It also specifically suggests best routes from source to destination based on the traffic data. The bigger picture here is the reduction of congested roads all over the city. This mechanism will also help to minimize the battery consumption of mobile devices.

Published in: 2018 International Conference on Smart City and Emerging Technology (ICSCET)

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INSPEC Accession Number: 18237468

DOI: 10.1109/ICSCET.2018.8537260

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Traffic is a very important and unavoidable circumstance which can dampen the daily routine and its solutions need to be updated continually. Various reasons contribute to traffic. It is a wider categorisation. We have often come across bottlenecks which occur as a result of a wider road leading into a narrower one. This can lead

Ontology based Domain Dictionary

Publisher: IEEE

Cite This PDF

Padmaja Kolle ; Snehal Bhagat ; Shruti Zade ; Bhavik Dand ; C.S. Lifna All Authors

Abstract:
Document classification is a key component in the realisation of many applications, including Text Summarization, Semantic Web, Search Engine Optimization, Sentiment Analysis among many others._Extracting domain keywords from documents helps to optimize the task of document classification involved in Information Retrieval. The existing state of the art techniques extensively depend on keyword extraction based on term document frequency. Also, these techniques rank words based on the title of the document, which, in some cases, is imprecise as the title of the document may not have words relevant to the context of the document. To overcome such problems, we propose a model for ontology based keyword extraction to increase the accuracy of document classification and in turn its applications. The objective of our paper is to extract domain specific keywords from the given text document with the help of a Domain Dictionary created using Ontology. This approach can further be extended towards revitalizing text summarization techniques.

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Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Document Classification is required for many applications such as Search Engine Optimization, Semantic Web, Metadata Tagging, etc. There doesn't exist a generic application/API to classify documents according to domains. Furthermore, the ambiguity in existing applications for doc[illegible]h eventually results in incorrect data and findings. Multi-level Term Document Classification is used extensively

Stock Market Prediction based on Social Sentiments using Machine Learning

Publisher: IEEE

Cite This

PDF

Tejas Mankar ; Tushar Hotchandani ; Manish Madhwani ; Akshay Chidrawar ; C.S Lifna All Authors

Abstract:
Machine learning and artificial intelligence techniques are being used in conjunction with data mining to solve a plethora of real world problems. These techniques have proven to be highly effective, yielding maximum accuracy with minimal monetary investment and also saving huge amounts of time. To add to their annual income, nowadays, people have started looking at stock investments as a lucrative option. With expert guidance and intelligent planning, we can almost double our annual revenue through stock returns. That said, stock investment still remains a risky proposition for the uninitiated. Exorbitant wages of the investment experts coupled with a general ignorance pertaining to the financial matters among the public, deters many from trading in stocks. The fear of losses also acts as a deterrent to many. These facts propelled us to harness the power of machine learning to predict the movement of stocks. Using sentiment analysis on the tweets collected using the Twitter API and also the closing values of various stocks, we seek to build a system that forecasts the stock price movement of various companies. Such a prediction would greatly help a potential stock investor in taking informed decisions which would directly contribute to his profits.

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Conference Location: Mumbai, India

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I. Introduction

Nowadays, social media has become a mirror that reflects people's thoughts and opinions to any particular event or news. Any positive or negative sentiment of public related to a particular company can have a ripple effect on its stock prices. We seek to

Analysis and Prediction of health issues for teaching profession using Semantic Techniques

Publisher: IEEE

Cite This

PDF

C.I Arthi ; R.L Priya ; Ruchi Rautela All Authors

Abstract:
The teaching profession is considered as the safest with least physical strain. However teachers also undergo work related illness and health hazards. Most of the existing system discuss the prediction of general or specific health issues of common people regardless of any profession. Also there are very few systems that predicts profession related illness, which focusses mainly on field related issues. The paper proposes analysis and prediction of diseases such as voice disorders, chronic laryngitis and respiratory illness like asthma that affects teachers due to their profession and that can be diagnosed at an initial stage using semantic techniques. The negEx algorithm is used to filter and retrieve negated findings and diseases from patient's medical records. The work also involves semantic techniques like Bio Ontology Annotator, First Order Logic (FOL), Description Logic (DL) to predict the probable diseases with the help of teacher's medical records and their routine lifestyle nature. The proposed method could help teachers in earlier detection of complicated diseases.

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INSPEC Accession Number: 18237461

DOI: 10.1109/ICSCET.2018.8537368

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

Teachers not only transfers the knowledge, but also contribute their efforts towards the development of future generations in an efficient way. Compared to other professions, teaching is considered as a best one, because of its healthful lifestyle and lower risk of

Smart Driver Assistant

Publisher: IEEE

Cite This | PDF

Abha Tewari ; Sahil Khan ; Aditya Krishnan ; Tanmay Rauth ; Jvoti Singh All Authors

Abstract:
This paper proposes a smart driver assistant system that will help drivers avoid accidents during lane departures by providing prompt and quick markings of road lanes. This paper also proposes a novel system for the automatic detection and recognition of traffic signs. It detects the blobs using MSER i.e Maximally Stable Extremal Regions which provides similar results under different lighting conditions. Recognition is based on a cascade of Convolutional Neural Networks (CNN) that were trained using histogram of oriented gradient (HOG) features.

Published in: 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA)

Date of Conference: 29-31 March 2018

Date Added to IEEE *Xplore*: 01 October 2018

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INSPEC Accession Number: 18132524

DOI: 10.1109/ICECA.2018.8474760

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

With the advent of smartphones, Android has become the dominating mobile OS functioning on over 1.2 million devices worldwide[1]. Android provides an efficient SDK which when used with Android Studio IDE can help create applications quickly and easily. World Health Organisation estimated about 1.35 million death all around the globe due to road traffic which can be approximated to about 1 death in 25 seconds in the year 2016. A majority of these accidents occur due to lack of attentiveness while departing lanes / lane splitting. The purpose of [Sign in to Continue Reading] er assistant which will help the driver make rational [d]nvironment. The system marks lanes in front of the car with image processed highlighting and colored tracking. Along with this, the system will ensure that the driver never misses a traffic sign. The

IoT based Hydroponic Farm

Publisher: IEEE

Cite This PDF

Nikita Bakhtar ; Varsha Chhabria ; Iptisaam Chougle ; Harsha Vidhrani ; Rupali Hande All Authors

Abstract:
The effects of global warming make more difficult for planting in an uncontrolled environment. In the traditional farming method, farmers require fine quality of soil with natural mineral strengths. It also requires working cost for plowing and removal of weeds and also needs a large amount of space and water. In the case of seasonal plants, the yield does not satisfy the customer needs and the expectation of farmers in productivity. For these reasons, a farming method which needs lesser requirements in cost factor and also it easy to maintain and control the important factors such as light, water level temperature, and humidity throughout the year is needed. This proposed work presents a Hydroponic farming; the method of growing plants without making use of sunlight & soil. In this method, the plants are grown with their roots exposed to the mixture of minerals with water instead of underground soil. This method is a type of indoor agriculture style which is independent of weather, and it also avoids the cost of plowing and labor works. Watering and controlling of humidity is done with the help of a microcontroller Kit connected to Wireless sensor network with internet which senses the humidity, temperature and water level. With the help of this IoT technology, the real-time status of the plant's growth could be monitored by the authorized person from a remote location.

Published in: 2018 International Conference on Smart Systems and Inventive Technology (ICSSIT)

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Date Added to IEEE *Xplore*: 01 July 2019

INSPEC Accession Number: 18796222

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Publisher: IEEE

Conference Location: Tirunelveli, India

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I. Introduction

The word "Hydroponic" defines as any means to grow plants via a medium that does not include the use of soil but involves inorganic nutrients or nutrient solution The system is a

IOT based Parking Automation System

Publisher: IEEE

Cite This

PDF

Hanisha Jamtani ; Meet Shah ; Krishna Vanvari ; Sunita Sahu All Authors

Abstract:
Technology has enabled us to imagine beyond our working capacities and think of solutions that can replace the monotonous work with automated machines and systems. This research paper is aimed at making the parking system agile, robust and more convenient for people. Albeit, several parking solutions are available, this system integrates all problems into one single idea that can be permanently embedded as a solution. The system will incorporate different modules like parking availability calculation, proximity estimation and payment service. The system will also guide the vehicle owners to navigate through the parking lot. Moreover, an analysis will be conducted to examine the benefits of the current project and how it can be improved.

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INSPEC Accession Number: 18257490

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I. Introduction

IOT plays has a significant role when it comes to connecting environmental factors to the network from any remote loaction[1] In today's highly traffic congested cities where there is a great need of parking spots, it becomes difficult to find one. People spend lot of time to find a proper parking where

fety of their cars. While going to any big facility like malls or supermarkets, it's an arduous task to search for parking especially during the weekends. To overcome this issue, we have come up with a

Smart Home Security Using IoT and Face Recognition

Publisher: IEEE

Cite This PDF

Suraj Pawar ; Vipul Kithani ; Sagar Ahuja ; Sunita Sahu All Authors

Abstract:
The Internet of Things(IoT) has made it possible to set up a smart home security through which you can decide who can enter your home using your smartphone and web application. It's also made it simple and relatively affordable to monitor your home anytime and anywhere. the key issue in a traditional home security system is, it is easily breakable and quite outdated. This in turns, results in the robbery and also needs installation of the costly security system. To tackle this problem, we propose a smart home security system, which is IoT as well as face recognition enabled. In our system, the web camera is used which is connected to the raspberry pi accompanied by sensors such as Passive Infrared(Pir) and Ultrasonic sensor. On motion detection camera captures an image of the person in front of the door then real-time face recognition is done using local binary pattern (LBP). If person's image matches with one of the home members then the door will unlock, else doorbell will ring. if an intruder tries to break door then an alarm will be raised at the same time SMS and Email containing image of the intruder will be sent to the homeowner. Face recognition works well in multi-face recognition and stranger identification, which meet the requirement of home security. This system is battery powered in case of power failure. Furthermore, the house owner can keep track of activity happening in the house using android and web application connected to the raspberry pi using the internet. Using Android application or web application owner can also add new person's faces into the databases eg., guests.

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Date of Conference: 16-18 Aug. 2018

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INSPEC Accession Number: 18618034

DOI: 10.1109/ICCUBEA.2018.8697695

Publisher: IEEE

Conference Location: Pune, India

I. Introduction

A home security system means to protect your home and keep safe valuables, and to keep your family safe from potential break-ins by burglars and thief. In the United States, there is a home related burglary that takes place every 13 seconds. 4 burglaries a

Discover Cross-Modal Human Behavior Analysis

Publisher: IEEE

Cite This

PDF

Pravin Tripathi ; Pratik P. Watwani ; Swastika Thakur ; Ankit Shaw ; Sharmila Sengupta All Authors

Abstract:
Job interviews are a predominant part of any hiring process to evaluate applicants. It is used to evaluate applicant's knowledge, skills, abilities, and behavior in order to select the most suited person for the job. Recruiters make their opinion, on the basis of both verbal and nonverbal communication of an interviewee. Our behavior and communication in daily life are cross-modal in nature. Facial expression, hand gestures and body postures are closely linked to speech and hence enrich the vocal content. Nonverbal communication plays an important role in what we are saying and what we actually mean to say. It carries relevant information that can reveal social construct of a person as diverse as his personality, state of mind, or job interview outcome; they convey information in parallel to our speech. In this paper, we present an automated, predictive expert system framework for the computational analysis of HR Job interviews. The system includes analysis of facial expression, language and prosodic details of the interviewees and thereby quantifies their verbal and nonverbal behavior. The system predicts the rating on the overall performance of the interviewee and on each behavior traits and hence predict their personality and hireability.

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INSPEC Accession Number: 18132559

DOI: 10.1109/ICECA.2018.8474611

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Nonverbal communication is as crucial as verbal communication when interviewing for a job. In face-to-face communication, our nonverbal behavior conveys information about our personality and traits in addition to our speech. Nonverbal communication is an unconscious process and hard to manipulate, therefore plays an important part in the

Social Champion Identification for NGOs

Publisher: IEEE

Cite This PDF

Utsav Das ; Arvind Narayanan ; Aman Gupta ; Onkar Singh Bagga ; Shalu Chopra All Authors

Abstract:
In this paper, we attempt to provide a recommender system to help NGOs select motivated and passionate individuals to promote their cause on social media by evaluating their digital social profiles. We have taken Twitter as the social medium due to its relatively easier access to user data and tweets. The best fit for a particular NGO would be the person who has both influence within her digital social network as well as writes and posts on matters relevant to the NGO. To achieve this ranking, we break down the profile of the candidate into three metrics: Influence, Engagement and Relevance. These three metrics provide quantitative scores of the influence the candidate has over her network, how engaged her follower base is and how relevant the topics the candidate talks about is to the NGO's work respectively. The first metric uses the TwitterRank algorithm to measure the influence the user has on his follower base. Engagement quantifies the way the follower base reacts to the posts through likes and retweets. Finally, we implement topic modelling with LDA to quantify the relevance of the candidate's tweets to the NGO's areas of interest. We consider whichever topic the NGO provides as the domain on which it requires candidates and hence, this system can be used by any organization to find persons of interest on Twitter.

Published in: 2018 2nd International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC)I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), 2018 2nd International Conference on

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INSPEC Accession Number: 18490537

DOI: 10.1109/I-SMAC.2018.8653753

Publisher: IEEE

Conference Location: Palladam, India

I. Introduction

NGOs often do not have the resources to go door-to-door to change people's minds. With the advent of social media platforms, however, they have acquired a powerful tool to generate enthusiasm at the grassroots level in various locations[15]. With social media, NGOs can reach out to a much larger audience and improve traffic to their website while

Smart Toilets using BLE Beacon Technology

Publisher: IEEE

Cite This PDF

Nidhi R Mishra ; Paras M Suri ; Shalu Chopra All Authors

Abstract:
With the advancement of microelectromechanical & wireless technologies for communication, Internet of Things sector has flourished at the worldwide platform and easy internet access has resulted in remarkable development in Information and Communication Technology. BLE beacons recently have become one of the IoT devices used for implementing Real Time Locating System. Since mobile internet may not always be available for indoor positioning thus we have developed our application of Smart Toilets a public toilet management and encouragement system based on the Bluetooth low energy beacons and readers technology to provide an effective system for management of public toilets by government thereby extending the applicability of BLE beacon.

Published in: 2018 3rd International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 15-16 Oct. 2018

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INSPEC Accession Number: 18724026

DOI: 10.1109/CESYS.2018.8723925

Publisher: IEEE

Conference Location: Coimbatore, India

1. INTRODUCTION

A large number of IoT devices are deployed for implementation, thus to simplify the interconnection amongst IoT devices and backend systems there are some standardized low-power wireless communication protocols such as ZigBee, Bluetooth low energy, etc. BLE Beacons operate majorly for two connection-based roles Marginal device and Dominant device. Based on the BLE technology, Apple Inc. announced the iBeacon protocol in 2013 for building location-aware applications. Our idea plans to track the usage of the public toilets by residents in surrounding areas and reward individuals who exhibit behavior change. In India, the urban component has been allotted Rs. 62,009 crores. So to eliminate open d... Sign in to Continue Reading ...and manual scavenging

3D Face Generation from Sketch Using ASM and 3DMM

Publisher: IEEE

Cite This PDF

Heba Nomani ; Shanta Sondur All Authors

Abstract:
The major challenge that has not received much attention in automatic sketch to image face recognition is to achieve age invariance. 3D face modeling using image has been used to overcome many challenges of face recognition, as it is invariant to changes of viewpoint, illumination, background clutter and occlusions. Keeping all the challenges associated with sketches, 3D modeling and automatic sketch to image face recognition, we propose a method for reconstructing a 3D face model using only one frontal face sketch. The methodologies used for doing so are Active Shape Modeling (ASM) and three Dimensional Morphable Model (3DMM). ASM is used for getting the landmark points on the face based on the shape while 3DMM is used for reconstructing the 3D face model by using those points.

Published in: 2018 International Conference On Advances in Communication and Computing Technology (ICACCT)

Date of Conference: 8-9 Feb. 2018

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INSPEC Accession Number: 18249519

DOI: 10.1109/ICACCT.2018.8529358

Publisher: IEEE

Conference Location: Sangamner, India

I. Introduction

Automatic sketch to image face recognition has important application for law enforcement. Challenges associated in such recognition are to achieve age invariance, handling different pose and illumination. Recent researches has focused on matching different sketches (viewed ske posite sketches) with images but the area of age invariant photo-sketch recognition still remain unexplored [1]–[4]. Keeping all the challenges associated with sketches and sketch to image face

Face Detection Using Viola Jones Algorithm and Neural Networks

Publisher: IEEE

Cite This | PDF

Monali Nitin Chaudhari ; Mrinal Deshmukh ; Gayatri Ramrakhiani ; Rakshita Parvatikar All Authors

Abstract:
Face detection is a technique of detecting faces from pictures, video footages, etc. There are various face detection algorithms; one of the widely used algorithm is the Viola Jones algorithm for object detection. The success rate of this algorithm for detecting faces is about 78.4%. In this paper, we present a technique, which is an improvisation on the existing Viola Jones algorithm. We have improvised the algorithm to clearly detect the eyes in a face of both people wearing glasses or not. The detection of glasses on the face is done by training a neural network. This algorithm primarily identifies a face with the presence of eyes, which has improved the detection rate and today our observations have yielded 90% success.

Published in: 2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA)

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Publisher: IEEE

Conference Location: Pune, India

I. Introduction

Faces play a crucial role in human interactions. Nowadays face is used as a biometric identifier in many applications like access control for security, criminal identification, surveillance and many other d... ction is a procedure by which one can extract the faci... es. In all the above mentioned applications and other face related applications; face detection is a preliminary step

A Case Study with $^{241}Am(n, 2n)$ EXFOR data Using Weighted Least Square Method

Publisher: IEEE

Cite This PDF

Dipesh N. Solanki ; Jayalekshmi Nair ; Sangeetha Prasanna Ram ; S. Ganesan All Authors

Abstract:
This case study with ^{241} Am (n, 2n) examines the assumption of the Correlation Coefficient of 0.5 in the Web tool of constructing Covariance matrix of the IAEA-EXFOR web retrieval system. The (n, 2n) cross section data of ^{241} Am are retrieved from the IAEA-EXFOR (International Atomic Energy Agency - Experimental Nuclear Reaction Data) database. Of all the available datasets, the experimental data of Sage et.al. gives the experimentally derived correlation coefficients. In this work, we therefore performed regression analysis on the entire data keeping the Sage's correlation data intact, and varying the correlation in all other experimenters' data where correlations are not specified. The Web tool for constructing covariance matrix from EXFOR uncertainties in the IAEA-EXFOR Web retrieval system assumes a correlation coefficient of 0.5 in the absence of experimental correlation coefficients. We examine the assumption by varying the correlation coefficient from uncorrelated to fully correlated. The weighted least square technique is used to estimate the regression parameters which takes into account the correlation between the data at various energies. The changes in the cross section data include the effect of correlations on the fitted cross section values. We agree with the prescription in the IAEA-EXFOR Web tool system that whenever the experimental correlations are not available, and information is lacking, a correlation coefficient of 0.5 may be assumed and used to calculate covariance matrix.

Published in: 2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA)

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Publisher: IEEE

Conference Location: Pune, India

I. Introduction

The advanced nuclear systems require very accurate estimation of confidence margins in plant parameters for their design. The error in plant parameters of advanced nuclear systems are mainly due to the uncertainties in nuclear data according to the studies by

High performance AC coupled Biomedical Signal Processing System using New Technique of Impedance Steering with Synchronous Sampling and A/D Conversion

Publisher: IEEE

Nilima Warke ; J.M. Nair ; P. P. Vaidya All Authors

Abstract:
This paper proposes a new method named as impedance steering to improve the frequency response of the AC coupled instrumentation amplifier (IA) which is widely used for processing of biomedical (BM) signals. The method makes use of steering a high impedance in chain of resistors used at the input of IA with balanced AC coupling to achieve very high impedance during amplification of the input voltage. This results in uniform frequency response even at the lower frequencies which is major concern for processing of BM signals. This impedance steering technique can be used at input of any IA to construct a standalone amplification system for BM signals. However, in many applications, the output of IA is digitized using high resolution A/D conversion. A new method named a synchronized sampling and A/D conversion has been proposed in this paper for such applications. This method makes use of sampling and digitization of the signal which is synchronized with the process of steering the impedances to obtain high performance AC coupled BM signal processing system. The circuit has been designed and simulated using NI Multisim software, version 12. The results obtained using this method confirms the efficacy of the method for obtaining high performance signal processing required for BM signal applications. Though the system is preliminary designed for BM application, it can be used for wide range of signal processing.

Published in: 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA)

Date of Conference: 29-31 March 2018

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INSPEC Accession Number: 18144855

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Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Instrumentation amplifier (IA) is used in biopotential measurement system to provide high

A Research Grade Computer Controlled Light Source

Publisher: IEEE

Cite This PDF

Kadambari Sharma ; P.P Vaidya ; J.M. Nair All Authors

Abstract:
The field of measurement and control is rapidly expanding which has given rise to the use of optical fiber sensors. These sensors offer various advantages over conventional sensors. The optical sources made by converting electrical energy into optical (light) energy play very important role in optical fiber sensing systems. Different experiments need to be performed with optical fibers to study their sensitivity and usefulness in numerous applications. The response of the optical fibers can be evaluated under various conditions of light sources such as variations in wavelength of light and its intensity. In case of distributed sensing systems, the light is sent in the form of pulses hence the width and the frequency of these light pulses also need to be controlled. This paper describes a research grade computer controlled light source which has been developed for research work in the field of optical fiber instrumentation. This system employs an integration of hardware and software. The Graphical User Interface (GUI) has been developed using Scilab to enter the required parameters of the light source. The hardware system is designed to utilize these parameters and give the light output as desired by the user. The parameters controlled by this system are light intensity, wavelength, duration, and the frequency of light pulses. The basic light sources that can be used for this purpose are Light Emitting Diodes (LED), LASERS or other sources of light. The wide range of variation in various parameters of the light produced by this system and also its cost effectiveness provides an important way for carrying out the research work in the field of optical fiber instrumentation and measurement.

Published in: 2018 International Conference on Smart City and Emerging Technology (ICSCET)

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Print on Demand(PoD)
ISBN:978-1-5386-1186-9

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

The advances in optoelectronics and the fiber optic telecommunication industries led to the emergence of fiber optic sensors. These sensors are the subject of considerable

International Conference on ISMAC in Computational Vision and Bio-Engineering

ISMAC 2018: Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2018 (ISMAC-CVB) pp 1191-1207 | Cite as

Drunk Driving and Drowsiness Detection Alert System

Authors Authors and affiliations

Vivek Nair, Nadir Charniya

Conference paper

First Online: 02 January 2019

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 30)

Abstract

Advancement of safety features to avert drunk and drowsy driving has been one of the leading technical challenges in the automobile business. Especially in this modern age where people are under serious work pressure has led to higher crash rates. To prevent such accidents this paper discusses the use of nonintrusive techniques by using visual features to determine whether driver is driving in alert state. Drowsiness detection has been implemented using HAAR Cascade for face and eye closure detection and yawn detection implemented using Template matching in visual studio 2013. For drunk state detection, an alcohol sensor (MQ-3) has been implemented to avoid drunk driving. If the driver is found to be in drunk or drowsy condition, then an alarm would be generated and the driver being alerted using a buzzer and a vibrator that can be placed in the seatbelt or under driver seat thus preventing from mishaps taking place.

Optimum Resource Allocation in Underlay Hybrid Cognitive Gaussian Relay System

Publisher: IEEE

Cite This

PDF

Devyani Devendra Bhale ; Ranjan Bala Jain All Authors

Abstract:
Cognitive radio is hailed as the best possible solution for the problem of spectrum under-utilization. Pure Cognitive Radio Networks are unreliable in nature, hence a Hybrid Cognitive Radio Network using both Cognitive and licensed radio resources is more useful in practical. This paper analyses the performance of Hybrid Cognitive Gaussian Relay Channel (HCGRC) for underlay condition, considering the interference constraint at the nearest primary user. The performance metrics such as Capacity, Energy Efficiency and Spectral Efficiency are formulated and computed using numerical simulations with and without Rayleigh fading. These results are helpful in determining optimum power and bandwidth allocation within allowed interference to achieve full Capacity. The study of HCGRC for underlay approach leads to two key observations. First, for given primary user's location, the upper limit of power allocation for Cognitive relay can be determined. Second, Spectral Efficiency can be maximized by allocating optimum bandwidth to achieve peak capacity. The numerical results predict the optimal value of resources for achieving maximum Capacity, Energy Efficiency and Spectral Efficiency.

Published in: 2018 International Conference On Advances in Communication and Computing Technology (ICACCT)

Date of Conference: 8-9 Feb. 2018

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DOI: 10.1109/ICACCT.2018.8529580

Publisher: IEEE

Conference Location: Sangamner, India

I. Introduction

Wireless communication technology is being improved rapidly. The number and variety of smartphones, smart watches, cars and other wireless networked devices are growing continuously. Hence the usage of radio spectrum is increasing and available spectrum is becoming scarce. However, it is observed that the costly spectrum remains underutilized for most of the time. To exploit the underutilized spectrum effectively Cognitive radio is

Halftone Visual Cryptography for Grayscale Images Using Error Diffusion and Direct Binary Search

Publisher: IEEE

Cite This

PDF

Sandhya Anne Thomas ; Saylee Gharge All Authors

Abstract:
Visual Cryptography(VC) provides prefect security and the decoding is done without the help of a computer device. Halftone visual cryptography (HVC) uses halftoning techniques to produce shares, which maintains good contrast and security also increases the quality of shares. HVC increases the region of VC by the inclusion of digital halftoning technique. The problem of encoding and transmitting a secret message with high security is discussed and implemented by using meaningful halftone shares. Using Error diffusion or Direct binary search a secret message of a grayscale can be encoded into shares. Simulation results show several illustrative examples with its parameters.

Published in: 2018 2nd International Conference on Trends in Electronics and Informatics (ICOEI)

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Print on Demand(PoD) ISBN:978-1-5386-3571-1

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Visual cryptography(VC) was developed and initiated in the early ninety at the Eurocrypt conference. VC is an inventive cryptographic scheme, which can decrypt hidden images without any cryptographic calculation [1]. There is a wide increase in transmission of data over network for instant access or distribution. Data is exist in different forms like text, image, audio and video. Image is one of the most important type of data transmission. Researchers have been using visual cryptography schemes(VCS) for transmission of secret messages in the form of share images. There are various ways by which data can be guarded such as image hid

authentication and so on. The shortcoming of these ssage is masked in a

Enhanced Security for Military Grid Reference System Using Visual Cryptography

Sandhya Anne Thomas ; Saylee Gharge All Authors

Abstract:
Security is one of the greatest challenge with increased and developed technology. Visual Cryptography is an answer to information security which provides absolute security with less complication and requirements. Encoding is done using Visual cryptography(VC) approach and decoding by the authorized person doesn't need strong knowledge of the subject. VC works on binary images only which is a drawback of this approach, to overcome this problem Halftone Visual Cryptography(HVC) is taken. Enhanced HVC(EHVC) increases the security by using meaningful shares. In this paper two simple and strong halftone techniques namely Error Diffusion and Direct binary search(DBS) is implemented, compared, and modified for better visual decoded/recovered output. This technique is applied for Military Grid Reference System. Comparisons have been made visually and using parameters like Peak Signal to Noise Ratio (PSNR), Correlation, Universal Quality Index(UQI) and Structural Similarity(SSIM).

Published in: 2018 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT)

Date of Conference: 10-12 July 2018

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Publisher: IEEE

Conference Location: Bangalore

ICT Application for Academic Enhancement of Student's Learning Process

March 2019

Conference: International Conference on ICT For Organizational Effectiveness Organised By NCRD's Sterling Institute of Management Studies from 14th to 16 th March, 2019. Pageno: 91-93 · At: Mumbai

Authors:

Dhanamma SHANKAR Jagli
Vivekanand Education Society's Institute ...

ISBN : 978-93-5346-784-5

ICT Application for Academic Enhancement of Student's Learning Process

Prof. Dhanamma Jagli
V.E.S.Institute of Technology, Chembur, Mumbai.
Yogesh Jeswani - Student (MCA)
V.E.S.Institute of Technology, Chembur, Mumbai.

Abstract:
The future of the education system will restructure through information communication technology (ICT), which is a comprehensive approach to innovate education systems, methods, and management. The need for Information Communication Technology (ICT) in education today cannot be over emphasized. In this paper, analyzed usage of ICT application in the academics for enhancing students' performance. As a part of ICT our institute made good drive available for students with unlimited storage so that students are using google drive services like documents, google sheets, presentation and forms efficiently for sharing lecture notes, coordinating work for projects and, submitting assignments on time etc. This work is analyzed thoroughly and came up with strong opinion that students should use google drive services for their academic purpose.

Key word:
Information Communication and Technology (ICT), Academic, Students, Google Drive

1. Introduction

The future of the education system will restructure through information communication technology (ICT), which is a comprehensive approach to innovate education systems, methods and management. The new paradigm of ICT in educations is smart services, which enhances the education efficiency, effectiveness, and productivity. Information and communications the future of the education system will restructure through information communication technology (ICT), which is a comprehensive approach to innovate education systems, methods and management. The new paradigm of ICT in educations is smart services, which enhances the education efficiency, effectiveness, and productivity. Information and communications technology (ICT) refers to all, the technology used to handle telecommunications, broadcast media, intelligent building management systems, audiovisual processing and transmission poses an immense challenge that the education system in general and the classroom teachers in particular need to address. The need of the hour is to bridge the gap between how students live and learn. For the current multitasking, multifaceted, technology driven and diverse natured learners, getting education does not merely mean getting grades nor does it imply that the teacher's sole professional role is to 'give information'. Rather, the nature and needs of the learner makes it imperative not only for the system at large, but also the teachers to develop multiple teaching-learning objectives that will enhance a learner's level-of-learning and at the same time also equip him/her with crucial employability skills such as analytical/critical reasoning, creativity, communication, ethical decision-making etc.

1. Issues Encountered Without ICT.

a. Teacher quality:

Teachers are vital to the education process, and their training and continuous development are crucial in improving the quality of education. How teachers are prepared for teaching is a critical indicator of education quality. The quality of teachers remains a problem in many poor countries. Investment in teacher preparation and support is a prerequisite for educational quality. Preparing teachers for a changing world means equipping them with adequate subject knowledge, effective teaching practices, an understanding of technology and the ability to work with others (colleagues, management, and parents). Research indicates that large proportions of primary school teachers lack adequate academic qualifications, training and content knowledge, especially in developing countries. This indicates that much pre-service training may be ineffective. Teachers' formal qualifications, however, may not reflect teacher quality as adequately as the ability to make the best use of learning materials, learners' work and their own subject knowledge.Through quality education, students are allowed to reach their fullest potential in terms of cognitive, emotional and creative capacities.Poor instruction is a significant source of

Third International Congress on Information and Communication Technology pp 951-961 | Cite as

Medical Image Enhancement Using Hybrid Techniques for Accurate Anomaly Detection And Malignancy Predication

Authors Authors and affiliations

Shilpa Joshi, R. K. Kulkarni

Conference paper
First Online: 29 September 2018

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 797)

Abstract

Advanced pictures that got by any image procedure are routinely rotted by commotion as a result of various wellsprings of blocks that impact the estimation process. A shared objective crosswise over frameworks is to build the determination however much as could reasonably be expected to accomplish genuine isotropic picture which ought to be clearer, obscure free, and less uproarious. Different diffusion-based filtering strategies have been utilized, anisotropic diffusion (AD) or nonlinear diffusion (ND), which diminishes the spot/speckle noise in medical pictures. This proposition particularly in view of speckle reduction diffusion filter (SRDF), followed by utilization of super-resolution (SR) on these sifted and fragmented medicinal pictures of various imaging modalities combined advances like filtering, determination, and improvement helps in recognizing the variation or abnormality from the norm if any present in the picture. With the assistance of machine learning (ML), one can anticipate the status of the variation from the norm precisely. Along these lines, the objective of documenting high-

International Conference on ISMAC in Computational Vision and Bio-Engineering

ISMAC 2018: Proceedings of the International Conference on ISMAC in Computational Vision and Bio-Engineering 2018 (ISMAC-CVB) pp 265-274 | Cite as

Template-Based Video Search Engine

Authors Authors and affiliations

Sheena Gupta, R. K. Kulkarni

Conference paper

First Online: 02 January 2019

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 30)

Abstract

The exponential increase in video-based information has made it challenging for users to search specific video from a huge database. In this paper, template-based video search engine is proposed to improve the retrieval efficiency and accuracy of search engines. To begin with, the system splits the video sequence into eight key frames and then the fused image is created. The visual features like color and texture are extracted from the fused image and stored as complete feature set in a database. Now, the query clip is selected from the query database and then the template image is selected from the fused query image. The template query image features are compared with stored feature database using various similarity measures. The relevant retrieval experiments show that template-based video search engine using wavelet-based feature extraction gives better result in terms of average precision and recall using Euclidean distance as a similarity measure.

Keywords

Application Specific Node Deployment in WSN

Publisher: IEEE

Cite This

PDF

Meera R Pillai ; Ranjan Bala Jain All Authors

Abstract:
In Wireless sensor network (WSN) the deployment of nodes is decided based on the application requirement and specifications provided by the user. WSN has topology control issues like coverage, connectivity and design issues such as cost of deployment, network lifetime. These issues can be resolved if the network is built with minimum number of nodes which satisfies the predetermined network lifetime and coverage requirement of existing network. In this paper an application specific node deployment is presented by analyzing various energy efficient algorithms under different topologies like random, uniform and circular. The analysis is performed by determining parameters like FND, HND, LND and CHs count. Also, a topology which has complete coverage and low cost of deployment is proposed.

Published in: 2018 IEEE Global Conference on Wireless Computing and Networking (GCWCN)

Date of Conference: 23-24 Nov. 2018

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INSPEC Accession Number: 18528597

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Publisher: IEEE

Conference Location: Lonavala, India

I. Introduction

In Wireless Sensor Network (WSN) the sensor nodes need to monitor the field area and capture the important events. WSNs have the higher potential for many applications in situations such as biomedical [1], object tracking and surveillance [2], sniper detecti... environment in coal mining [4], seismic sensing [5], landslide [6], for domestic uses of wine production [7] and water quality monitoring in industries [8].

Simulation Based Study of Blackhole Attack Under AODV Protocol

Publisher: IEEE

Cite This

PDF

Alpana Kumari ; Shoba Krishnan All Authors

Abstract:
Mobile adhoc network are fully autonomous where the nodes act both as node as well as router. Centralization is absent in MANETs. In MANETs nodes are continuously moving and have an open access which put it at a risk of large number of attacks. Security in such networks is therefore a critical matter. In order to find solution to this issue various attacks need to be studied and analyzed. In Blackhole attack, the unauthorized node in the path of source and target nodes takes away the packets sent by the source and drops them by not heading them towards the target node. The malicious behavior launched by Blackhole attack deteriorates the network performance.

Published in: 2018 Fourth International Conference on Computing Communication Control and Automation (ICCUBEA)

Date of Conference: 16-18 Aug. 2018

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INSPEC Accession Number: 18617792

DOI: 10.1109/ICCUBEA.2018.8697882

Publisher: IEEE

Conference Location: Pune, India

I. Introduction

Mobile adhoc network (MANET) [1] consist of mobile nodes randomly moving in the network which communicate with each other via wireless links without any centralization. MANETs are therefore used in [illegible] especially in military areas, disaster prone areas, mining [illegible] prone to security attacks due to random movement of nodes, absence or no centralization, continuously changing scenarios and lack of resources to mitigate the attacks.

Infrared Thermography and its Applications: A Review

Publisher: IEEE

Cite This

PDF

Akshay A. Sarawade ; Nadir N. Charniya All Authors

Abstract:
Thermal imaging camera is a device which is used to detect infrared radiations emitted from an object to give a thermal profile of the scene. This device was initially used for surveillance purpose and as night vision camera. With the advancement in technology, there are significant additions to camera capabilities and prices has decreased. Therefore, infrared thermography (IRT) has grown to become very popular and widely accepted tool as it enables temperature measurement in real time. IRT is very convenient, fast, reliable, non-contact and cost-effective method which can be practiced for condition monitoring as well as for preventive and predictive maintenance in different areas such as electrical stations, buildings surveys, mechanical components and equipments. This survey presents a review of the advancement in IRT cameras and its applications in various fields. The basics of IRT and thermal radiation are discussed in details.

Published in: 2018 3rd International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 15-16 Oct. 2018

INSPEC Accession Number: 18724042

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Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Over the last several of decades, there is a huge development in automatic vision systems. Visible light (0.4-0.7 μm) can be captured using a standard digital camera in the form of RGB or grayscale images. A digital camera captures the visible light reflected from the object surface, therefore colors and visibility of image depend upon illumination, changing color intensity etc. In absence of visible light, these cameras cannot capture pictures. To overcome some of these shortcomings, different sensors like 3D sensors and near-infrared sensors we

s make use of the near-

Performance Evaluation of Dither based Approach for Alleviation of Blocking Artifact in Image Compression

Publisher: IEEE

Cite This

PDF

Anish kumar singh ; Chandan singh Rawat All Authors

Abstract:
To identify the forgery in DCT based compressed image the two significant properties are quantization artifacts and blocking artifacts. Image compression is really real substance for specific points of view in the area of intuitive media correspondence. By utilizing Image compression we can able to use the image with lesser number of information bits. Block based discrete cosine Transform (BDCT) is long set up utilized Transform for the two static and continuous image. While we compress any sort of image by lossy type of image compression procedure at that point there will be loss of information bits, we need to encounter undesirable curios ringing and blocking artifacts and when we need to reestablish such type of image then we confront issue of obscuring of image, which is called annoying artifacts around the block of the image. Block-based Discrete Cosine Transform create blocking artifact near block boundaries in reconstructed image at high compression. In this paper, we are going to reduce blocking artifacts at medium and low level compression by using Anti-forensic dither followed by linear and nonlinear filtering. The decrease in blocking artifacts is ordered by the parameters PSNR and MSSIM We can compare these parameters for different Quantization factor, on the basis of the MATLAB simulation results for various images.

Published in: 2017 International Conference on Current Trends in Computer, Electrical, Electronics and Communication (CTCEEC)

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Date Added to IEEE *Xplore*: 06 September 2018

INSPEC Accession Number: 18075991

DOI: 10.1109/CTCEEC.2017.8454969

Publisher: IEEE

Conference Location: Mysore

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Print on Demand(PoD) ISBN:978-1-5386-3244-4

I. Introduction

Due to rapid improvement in communication technologies, which made easy availability of good quality image capturing device and photo editing software. These directly or

Optimization of One Dimensional Photonic Crystal Structure with Light Reflection Characteristics

Publisher: IEEE

Cite This

PDF

S Amuthavalli ; Manisha Chattopadhyay All Authors

Abstract:
Photonic crystals are optical materials with repeating structures. This paper reviews the light reflection characteristics of one dimensional (ID) photonic crystals with defects in the visible region. Designing the ID photonic crystal for reflection based applications such as mirrors and reflection coatings, knowledge of photonic bandgap and the reflection characteristics in the periodic structure is essential. Modeling of flow of light in photonic crystals are studied with Comsol simulations which is based on FEM method. An observational study on reflection properties of ID photonic crystal reveals the impacts of periodic layer thickness, refractive index, and periodicity on light. The reflection spectrum of the photonic crystal structure with defects have been analyzed and a deep understanding of the photonic crystal with defect has been achieved. In this paper it is proposed that consistently high reflection can be achieved along with the structure optimization using defects.

Published in: 2018 2nd International Conference on Trends in Electronics and Informatics (ICOEI)

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INSPEC Accession Number: 18305630

DOI: 10.1109/ICOEI.2018.8553958

Publisher: IEEE

Conference Location: Tirunelveli, India

I. Introduction

Photonic crystal (PC) has opened an opportunity for advanced photonic component due to its adaptability in designing for any wavelength. Photonic crystals are arrangement of materials with different refractive indices periodically. In this structure the refractive index

Survey on Real Time Hand Gesture Recognition

Publisher: IEEE

Cite This

PDF

Sarang Suresh Kakkoth ; Saylee Gharge All Authors

Abstract:
Since ancient times, gestures has been the basic mode of communication, until humans developed vocal communication, but still, non-vocal communication is equally significant. These hand gestures have various application not only in entertainment and utility sections like human computer interaction, gaming but also in human life improvement sections like real time traffic signal control system and sign language recognition for the deaf and dumb. The major steps involved in implementing this recognition system include data acquisition, segmentation and tracking, feature extraction and gesture recognition. Hand gesture technologies can be basically divided into Sensor Based, Vision Based and Depth Based techniques. Each technique has its pro's and con's while being used for various applications. Based on the research works conducted by researchers various techniques implemented at each step can modified according to the improving hardware and software framework developments. This paper thus presents an amalgamation of various techniques and its substeps which can come handy while working on real time hand gesture recognition.

Published in: 2017 International Conference on Current Trends in Computer, Electrical, Electronics and Communication (CTCEEC)

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INSPEC Accession Number: 18062681

DOI: 10.1109/CTCEEC.2017.8455041

Publisher: IEEE

Conference Location: Mysore, India

I. Introduction

IN the recent years the advances in augmented reality (AR) and virtual reality (VR) has shown tremendous growth in various platforms. With these advances in imaging hardware and image processing algorithms available Real time hand gesture recognition has become possible, providing natural interactivity which the 2 dimensionality of mouse cannot provide. Real time hand gesture recognition plays an important role in conveying

Visual Descriptors Based Real Time Hand Gesture Recognition

Publisher: IEEE

Cite This PDF

Sarang Suresh Kakkoth ; Saylee Gharge All Authors

Abstract:
Vision based gesture recognition technologies based on structural shape descriptors and contour analysis methods have been described in this paper. Gesture have been the basic mode of communication since ancient times, until vocal communication was developed. Skin color detection technique for hand segmentation based on YCbCr methods has proved effective enough in real environment. Haar based classifier for face detection is used to remove one of the largest contour besides hand. Median filtering along with morphological operations applied here alleviates the effects of noise to a great extend without losing the boundary information in the image. The binary image formed after this only consists of two largest skin colored contours, mostly one or two hand contour image. Over this resultant contour, structural analysis based on contour shape along with convex hull and convexity defect formation together with geometrical analysis based on angle between convexity defect point and that of hand centroid helps in determining the number of fingertips. Based on number of finger-tips, the gestures can be classified into various gestures. Various applications in real time hand gesture recognition include American Sign Language (ASL) recognition, human computer interaction (HCI), robotics, real time traffic signal control and remotely controlling devices such as TVs, air conditioners, fan using hand gestures.

Published in: 2018 International Conference On Advances in Communication and Computing Technology (ICACCT)

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INSPEC Accession Number: 18249516

DOI: 10.1109/ICACCT.2018.8529663

Publisher: IEEE

Conference Location: Sangamner, India

I. Introduction

Recently many research on this topic has been carried out using various techniques in terms of hardware and software implementations. The hardware sensor based approach includes the MEMS [1] and wireless transmitting signal sensors [2] which increases the cost of the project, a main factor to be considered while building a project. The vision

Review on Various Visual Cryptography Schemes

Publisher: IEEE

Cite This PDF

Sandhya Anne Thomas ; Saylee Gharge All Authors

Abstract:
Visual cryptography is a powerful technique in which a secret image can be divided into two or more shares and the decryption can be done using human visual system. Visual cryptography has wide range of applications like in biometrics, print online banking, cloud computing, internet voting, etc.. The basic method of visual cryptography is a secret image is hidden into two or more shares which on superimposing will recover the hidden image. During the recovery it is not possible to get the original image due to various reasons like pixel expansion, contrast, storage, security, image types. Therefore various techniques have been developed to address these issues. A survey has been done on various visual cryptography schemes based on the number of secret, pixel expansion, type of share generated, image format, and number of secret image.

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INSPEC Accession Number: 18076005

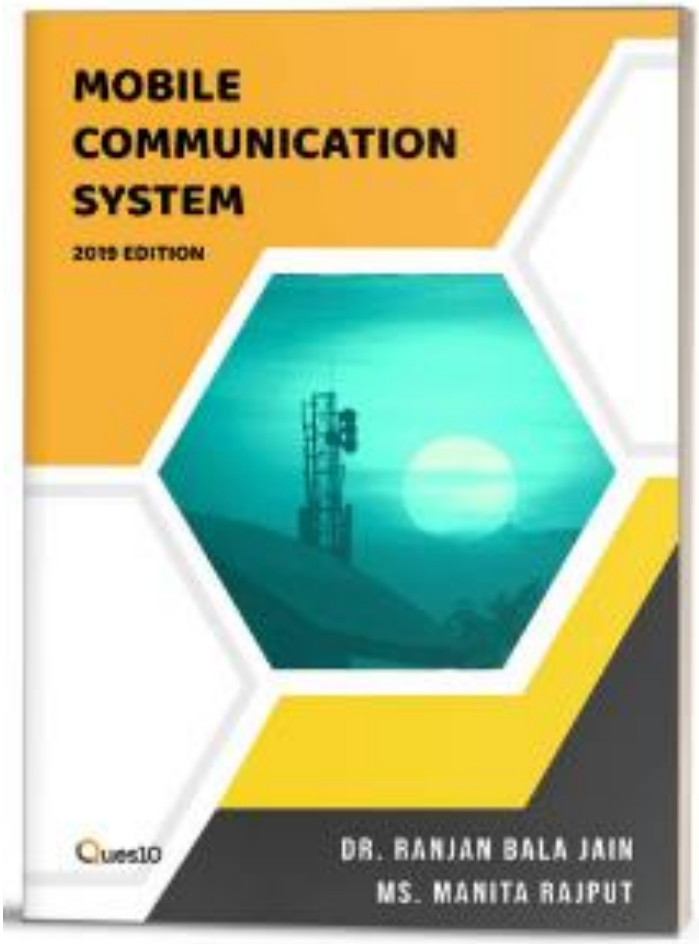
DOI: 10.1109/CTCEEC.2017.8455136

Publisher: IEEE

Conference Location: Mysore, India

I. Introduction

Visual cryptography was developed and initiated by Moni Naor and Adi Shamir in 1994 at the Eurocrypt conference. Visual cryptography (VC) is an inventive cryptographic scheme, which can decrypt hidden pictures without any cryptographic calculation [1] . As the name suggests, visual cryptography has relationship with the human visual system



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Dr. Ranjan Bala Jain
Professor, Vivekanand Education Society's Institute of Technology, Mumbai

Ms. Manita Rajput
Asst. Professor, Fr. C. Rodrigues Institute of Technology, Vashi

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Table of Contents

Publications
for
Academic Year: 2017-18

International Conference on Information and Communication Technology for Intelligent Systems

ICTIS 2017: Information and Communication Technology for Intelligent Systems (ICTIS 2017) - Volume 2 pp 554-566

| Cite as

"En-SPDP: Enhanced Secure Pool Delivery Protocol" for Food Delivery System

Authors | Authors and affiliations

Havan Somaiya 1

Radhakrishna Kamath 1

Email author

Vijay Godhani 1

Yash Ahuja 1

Nupur Giri 1

1. Department of Computer Engineering, V.E.S. Institute of Technology, Chembur, India

Conference paper

First Online: 17 August 2017

Part of the Smart Innovation, Systems and Technologies book series (SIST, volume 84)

Abstract

With increasing boom in the tech market many online food delivery systems have come up but almost all of them have some or the other flaw such as restriction on orders or extra charges. Hence, the work presented in this paper proposes use of enhanced version of SET protocol and a delivery protocol which, aims at saving conventional resources such as human resources and fuel and also time by using pool delivery mechanism.

PAPR reduction in OFDM using Goppa codes

Publisher: IEEE

Cite This

PDF

Sharmila Sengupta ; B. K. Lande All Authors

Abstract:
For many years, different methods were tried to reduce the PAPR of OFDM and are broadly classified as distortion or distortionless schemes, each of which has some merits and demerits. But the inherent frequency diversity benefits of a transmitted OFDM signal on multipath fading channels can only be exploited by use of channel coding. Hence in this paper, PAPR reduction was tried with coding method to exploit the advantage of OFDM systems. Since cyclic codes have been proved earlier as the suitable coding method to reduce PAPR, binary cyclic Goppa codes using BPSK carriers have been considered. Simulations show that the proposed scheme shows good PAPR reduction compared to uncoded OFDM and with the possibility to be extended with error detection and correction capability it can be used as a PAPR reduction method and can be experimented over several modulation techniques. The process is illustrated by means of an example, and it is shown that there is an improvement possible for a (16,8,5) and (12,4,5) Goppa coded symbols compared to the uncoded ones.

Published in: 2016 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE)

Date of Conference: 19-21 Dec. 2016

Date Added to IEEE *Xplore*: 15 August 2017

INSPEC Accession Number: 17101920

DOI: 10.1109/WIECON-ECE.2016.8009096

Publisher: IEEE

Conference Location: Pune, India

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Electronic ISBN:978-1-5090-3745-2
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I. Introduction

An OFDM signal divides a high rate information bit sequence into several parallel low rate sequences and use these to modulate a number of orthogonal subcarriers by Fourier transform techniques

mber of communication systems. But one of the major d signal is a high peak-

Proceedings of International Conference on Wireless Communication pp 23-28 | Cite as

MAC-Based Group Management Protocol for IoT [MAC GMP-IoT]

Authors | Authors and affiliations

Yeole Anjali (1)
Email author

D. R. Kalbande (2)

1. Computer Engineering, VES Institute of Technology, Mumbai, India
2. Computer Engineering, Sardar Patel Institute of Technology, Mumbai, India

Conference paper
First Online: 21 April 2018

Part of the Lecture Notes on Data Engineering and Communications Technologies book series (LNDECT, volume 19)

Abstract

Generally, 6LoWPAN network is used for communication in IoT. All the 6LOWPAN nodes in the radio range of 6LoWPAN boarder router will start sending or reading data. There is no authentication present; hacker can take advantage of this situation and can be able to place his own sensor in the network which will start generating some random data at high speed and of huge size. This will result in Distributed Denial of Service [IoT-DDOS]. To avoid this problem, group management protocol has been proposed in this paper, "MAC-based Group Management Protocol-IoT" [MAC GMP-IoT].

Keywords

IoT 6LoWPAN Group management protocol

Proposed system for sign language recognition

Publisher: IEEE

Cite This

PDF

Shashank Salian ; Indu Dokare ; Dhiren Serai ; Aditya Suresh ; Pranav Ganorkar All Authors

Abstract:
The learning aids for hearing and speech disabled people exist but the usage of these aids are limited. The proposed system would be a real time system wherein live sign gestures would be processed using image processing. Then classifiers would be used to differentiate various signs and the translated output would be displaying text. Machine Learning algorithms will be used to train on the data set. The purpose of the system is to improve the existing system in this area in terms of response time and accuracy with the use of efficient algorithms, high quality data sets and better sensors. The existing systems have been able to recognize gestures with high latency as it uses only image processing. In our project we aim to develop a cognitive system which would be responsive and robust so as to be used in day to day applications by hearing and speech disabled people.

Published in: 2017 International Conference on Computation of Power, Energy Information and Commuincation (ICCPEIC)

Date of Conference: 22-23 March 2017

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INSPEC Accession Number: 17580273

DOI: 10.1109/ICCPEIC.2017.8290339

Publisher: IEEE

Conference Location: Melmaruvathur, India

I. Introduction

A sign language is a language which mainly uses actions or gestures to convey meaning, as opposed to acoustically conveyed sound patterns. There are significant differences between signed and spoken la nts offered by visual gestures. Yet the two are fund ir own syntax and semantics. Groups of hearing and speech impaired people have used signs to communicate since many years and so sign language is developed among them

Sign in to Continue Reading

Optimized rescue system for accidents and emergencies

Publisher: IEEE

Cite This PDF

Sagar Wadhwa ; Preeti Wadhwa ; Sahil Mirchandani ; Richard Joseph All Authors

Abstract:
As the rapid growth of technology and infrastructure, it has increased traffic hazards, road accidents and hazardous situations which cause huge loss of health and life because of the late arrival of emergency services. Factors that cause delay in arrival are lack of coordination between emergency services and large traffic. In this paper, we propose a system that will provide an optimized solution to this drawback by coordinating between emergency facilities to increase efficiency of rescue process. It requests for immediate help in case of any emergency situations with a single click of a button. Our system will verify all the request by taking real-time snapshots of the incidents. These snapshots will then be processed in central server for verification purposes. This system will then contact the nearest hospitals to the site of the emergency and route the ambulance using shortest path algorithm. To reduce the time for the victim to reach hospital, our application will also inform the police with the route of ambulance, so that they could make a way for the ambulance to help the patient in reaching the hospital within the golden hour period to avoid any casualties. Our system targets the crucial problem, loss of life late due to inefficient services in case of emergencies. This system will increase the life expectancy in incidences and will help to reduce the time required for the victims to reach the hospitals.

Published in: 2017 2nd International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 19-20 Oct. 2017

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INSPEC Accession Number: 17650634

DOI: 10.1109/CESYS.2017.8321139

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

As population of the world is increasing day by day in countries like India and China traffic hazards, road accidents and hazardous situations are getting more and more prevalent. Increased vehicle density has led to many road accidents [2]. There is a huge loss of life due to late arrival o[illegible]eason is the delay in the arrival of ambulance in the Golden hour period. This delay is mainly caused due to

IoT enabled dustbins

Publisher: IEEE

Cite This PDF

Sahil Mirchandani ; Sagar Wadhwa ; Preeti Wadhwa ; Richard Joseph All Authors

Abstract:
Nowadays, waste management is one of the problems on which million of dollars are spent worldwide. the key issue in waste management is waste collection and sorting. Also, one of the issues in the waste management is that the garbage bin at public places gets overflowed in advance before the commencement of the next cleaning process. This, in turn, leads to various hazards such as bad odor & ugliness to that place which may be the root cause for the spread of various diseases. To tackle this problem, we propose the IOT enabled dustbins in this paper. these bins, use RFID tags for tracking of the wastes linked with a web-based online system and according to the weight of waste added, host server calculates the points and updates in the database of virtual wallet. Also, it measures the fullness of the dustbins and updates the status of each dustbin on the municipal server. It notifies them when the dustbin is full and provides the shortest route to empty all the dustbins based on the capacity of the municipal waste loading vehicles. The Capacity of trucks is calculated and updated each time according to the number of dustbins serviced by the trucks, as soon as it completes a route assigned to it. Furthermore, the user is assisted in material waste classification through our application and also the smart bin knows its content and can report back to the rest of the recycling chain about its contents. Our system, target two crucial problems, cost efficiency in waste sorting and waste collection processes.

Published in: 2017 International Conference on Big Data, IoT and Data Science (BID)

Date of Conference: 20-22 Dec. 2017

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INSPEC Accession Number: 17686269

DOI: 10.1109/BID.2017.8336576

Publisher: IEEE

Conference Location: Pune, India

I. Introduction

Today waste is a problem on which huge sums of money is spent each year for its collection and segregation process. India particularly generates approximately 133 760 tons of MSW per day, of which approximately 91 152 tones is collected, and a huge sum of money is spent on collection [15]. World waste production is expected to be

Capacitive fed RMSA with slotted ground plane

Publisher: IEEE

Nandini M. Ammanagi ; Ravi M. Yadahalli All Authors

Abstract:
In this paper, embedding slots in the ground plane of Capacitive fed RMSA has been proposed. Initially, the reference antenna consists of rectangular patch of size of (35.5 × 45.6) mm ^{2} and a small rectangular feed patch of size of (1.4 × 4) mm ^{2} residing on the same substrate suspended above the ground plane. Coaxial probe is used to feed the small patchwhich in turn excites the radiator patch electromagnetically, yielding a large impedance bandwidth (BW) of 39%, with goodgain and broadside radiation pattern. By, cutting three rectangular slots in the ground plane of reference antenna, the prototypeantenna is fabricated and measurement has been carried out to validate the result for compact broadband response.

Published in: 2017 International Conference on Advances in Computing, Communication and Control (ICAC3)

Date of Conference: 1-2 Dec. 2017

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INSPEC Accession Number: 17634113

DOI: 10.1109/ICAC3.2017.8318745

Publisher: IEEE

Conference Location: Mumbai

Speed Control of Brushless DC Motor using Microcontroller

Conference: Communication and Power Engineering
Author(s): Shobhit Khandare, Simran.C.Daswani, Kiran Chhatwani **Year:** 2018
Grenze ID: 02.CPE.2018.9.504 **Page:** 11-16

Abstract

In this paper we are designing a low cost microcontroller based speed control of\nBrushless DC motor. Brushless DC motor has various industrial applications like Linear\nmotors, Servo motors, Drilling etc. Brushless DC motor uses a permanent magnet external\nrotor, three phase of driving coils, one or more Hall Effect devices are used to sense the\nposition of the rotor. This system provides a very precise and effective speed control. [5].

<< BACK

CPE - 2018

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Computational Mathematics, Computational Intelligence , Computer Modeling, Energy storages, Power Electronics Controllers for Power Systems

CONFERENCE VENUE:
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Novel filter designing for enhancement of medical images using super-resolution

Publisher: IEEE

Cite This PDF

Ashwini S. Sawan ; Sukalp S. Kamdi ; Dhiren M. Khatri ; Deepti S. Urhekar ; Chirag D. Bohra All Authors

Abstract:
Medical imaging plays a vital role in the diagnosis and treatment of any ailment or disorder. The resolution of medical images thus becomes crucial in obtaining accurate details for diagnosis and treatment. X-ray and Magnetic Resonance Imaging. Technique are the two acquisition techniques which are widely used in medical imaging. The images acquired by these processes are of low resolution. But due to the limitations of the equipment cost and complexity, the resolution of the images cannot be improved in situ. The method of Super-resolution uses either a single low resolution image or a set of multiple low resolution images improves the image resolution, PSNR (Peak Signal to Noise Ratio) and the quality Index. In the last few decades many super-resolution methods were proposed. These methods had limitations in their utility due to the assumed model of data and noise. In this paper, we have proposed a method of enhancement of knee image taken using X-ray, MRI using TV regularization, shock, median, frost and wiener filter for noise removal. We also calculate the Joint Space Distance which becomes important in treatment of knee ailments like Rheumatoid Arthritis.

Published in: 2017 International Conference on Signal Processing and Communication (ICSPC)

Date of Conference: 28-29 July 2017

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INSPEC Accession Number: 17615439

DOI: 10.1109/CSPC.2017.8305849

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Medical images are mostly of lower contrast and resolution. Imaging systems like X-rays, Ultrasound, MRI scan, etc. have their own characteristic resolution. Each of them aim to increase resolution and achieve more accurate information. One of the aims of medical imaging is to detect the fractu

sent in any part of the body. This analysis is affected by image quality. However, the medical images acquired using these acquisition techniques have low PSNR (Peak Signal to Noise Ratio), CNR

Portable heart attack detector

Publisher: IEEE

Cite This PDF

Arushi Goyal ; Shimony Mittal ; Rugved Sawant ; Ajay Gidhwani ; Jyoti Bagate All Authors

Abstract:
The word `Health' has paved its way into the minds of the masses. Issues related to health are increasing at an alarming rate. Cardiovascular diseases, once considered to be a malady for the middle aged, is now prevalent among young adults. It is said that heart attack kills 1 person every 33 seconds in India [1]. The proposed model aims at detecting the occurrence of a heart attack by diagnosing the ECG signal. The chances of death due to heart attack can be greatly reduced by enabling access to immediate medical attention. This paper mainly emphasizes on collection and inspection of ECG signal for determination of a heart attack condition. Here, the survey on various behaviours and conditions observed in the ECG during heart attack would be discussed which is further processed and accordingly notified to the concerned individuals. The device aims to reduce the response time in case of occurrence of a heart attack which is crucial to prevent major damage to the distressed muscles in the heart.

Published in: 2017 8th International Conference on Computing, Communication and Networking Technologies (ICCCNT)

Date of Conference: 3-5 July 2017

Date Added to IEEE *Xplore*: 14 December 2017

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INSPEC Accession Number: 17428853

DOI: 10.1109/ICCCNT.2017.8203987

Publisher: IEEE

Conference Location: Delhi, India

I. Introduction

The heart is a central organ in terms of functioning of the human body. The Myocardium performs the pumping actions in heart which is also referred to as the wall of the heart. In a heart attack, this muscle tissue is denied oxygen-carrying blood due to a blocked artery

A stochastic convergence analysis of random number generators as applied to error propagation using Monte Carlo method and unscented transformation technique

Publisher: IEEE

Sangeetha Prasanna Ram ; S. Ganesan ; Jayalekshmi Nair All Authors

Abstract:
This paper compares the stochastic convergence of the Uniform Random number generators of two simulation software namely Matlab and Python and establishes the significance in choosing the right random number generator for error propagation studies. It further discusses about the application of Gaussian type of these random number generators to nonlinear cases of Error propagation using the Monte Carlo method and unscented transformation technique by means of a nonlinear transformation of one dimensional random variable of nuclear data.

Published in: 2017 IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES)

Date of Conference: 8-10 Aug. 2017

Date Added to IEEE *Xplore*: 02 November 2017

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Electronic ISBN:978-1-5386-3864-4
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INSPEC Accession Number: 17318586

DOI: 10.1109/SPICES.2017.8091351

Publisher: IEEE

Conference Location: Kollam

I. Introduction

The error in a quantity may be thought as a variation or change in the value of that quantity. The output variables which are functions of input variables are calculated using mathematical models and any [illegible] can result in errors or uncertainties in the output var[illegible]ables, measured directly and indirectly. In order to estimate the error in the output variables the error propagation techniques are used

Authors

Pileup rejection using estimation technique for high resolution nuclear pulse spectroscopy

Publisher: IEEE

Cite This PDF

Asma Parveen I. Siddavatam ; P. P. Vaidya ; J. M. Nair All Authors

Abstract:
High resolution spectroscopy systems need accurate measurement of peak height of pulses. The non-zero response time of the detection system leads to overlapping of pulses, thus affecting the overall performance of the system in terms of throughput, system dead time and energy resolution. In this paper, a new pile up detection technique has been described which is based on estimation of peak height of the pulses. For estimating peak value of the pulses; advantage has been taken of the fact that nuclear pulses have constant shape and same peaking time under no pileup condition. The shape of the pulses are exclusively dependent on shaping circuit and only the amplitude of the pulses will change with respect to the energy associated with individual radiation events. Piled up pulses are detected before the peaking time of the pulses. And piled up condition is detected in real time and also it saves lot of computational time. The method developed is easy to implement using basic analog and digital circuits.

Published in: 2017 International Conference on Intelligent Computing, Instrumentation and Control Technologies (ICICICT)

Date of Conference: 6-7 July 2017

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INSPEC Accession Number: 17720806

DOI: 10.1109/ICICICT1.2017.8342619

Publisher: IEEE

Conference Location: Kerala, India

I. Introduction

Pileup phenomenon takes place when two or more pulses occur in a time duration less than resolving time of the system. Pileup effect is an important limiting factor at high event rates. At high event rate[illegible]ulses will overlap leading to pileup effect, as given by Poisson statistics [1], [2] and [3]. There are two types of pile

Measurement of parameters of ultracapacitor

Publisher: IEEE

Cite This

PDF

Jayassre Ramakrishnan ; P P Vaidya All Authors

Abstract:
Ultracapacitors have large energy density, high power density, high capacitance ranging from few farads to thousands of farads, low Equivalent Series Resistance (ESR) and low rated voltages. Standard measurement devices like LCR meters, etc., are not suitable for measurement of Capacitance and ESR of Ultracapacitor, as their measurement ranges are not adequate for measurement of parameters of Ultracapacitors. This paper proposes a Digital meter for measuring parameters of Ultracapacitor using Charge-discharge method.

Published in: 2017 2nd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)

Date of Conference: 19-20 May 2017

Date Added to IEEE *Xplore*: 15 January 2018

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INSPEC Accession Number: 17504305

DOI: 10.1109/RTEICT.2017.8256915

Publisher: IEEE

Conference Location: Bangalore, India

I. Introduction

Storage of Energy is one of the primary concerns faced by the world today for meeting ever increasing demand for Energy. Wide range of electronic appliances viz., Mobile phones, laptops, digital came[illegible] etc., have pushed up the need for efficient energy stora[illegible] ge requirements include higher energy density, higher power density, lower Installation/ maintenance costs, better operating performance, longer life and ease of implementation

Sign in to Continue Reading

Authors

Smart sensor using function approximation

Publisher: IEEE

Cite This

PDF

Kader B T Shaikh All Authors

Abstract:
This paper reports a neural network (NN) implementation of function approximation. Function approximation (aka, nonlinear regression) identifies input-output relationship from given input-output data set. Concept of function approximation is applied to develop a smart position sensor. Smart position sensor consists of three standard sensors that are coupled with a neural network to produce an estimate of the location of an object in one dimension. MATLAB is used to construct and train the multi layer feed forward neural network. Hardware implementation of trained neural network is done on Arduino Uno microcontroller board.

Published in: 2017 2nd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)

Date of Conference: 19-20 May 2017

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INSPEC Accession Number: 17504461

DOI: 10.1109/RTEICT.2017.8256793

Publisher: IEEE

Conference Location: Bangalore, India

I. Introduction

There are ample of real world applications where we need to learn a mapping between input and an output space. Many situations exists where an explicit formula (or function f) relating pairs of input-output data in the form of (x, j(x)) is unavailable. Approximation theory could be utilized here to [illegible] as an associative memory and estimate output [illegible] generalizes when

'Ting': A PhoneGap based Android application for sharing personal and device information amongst social circles

Publisher: IEEE

Cite This PDF

Geocey Shejy ; Bhagyesh Save ; Shilpa Das All Authors

Abstract:
The advancement in technology has led to the development of innovative things that only a few years back were mere fantasy. With the way technology is evolving, the dependency of people on it to solve everyday problems should not come as a surprise. One such problem that is a huge concern all over the world at present is personal security. At a time when the humanity of humans is at question, everyone is in constant fear of the whereabouts of loved ones. The application stores of different platforms are filled with safety applications that aim at being the personal watchdogs of the users. Having said this, these applications are lacking in a crucial aspect, the sharing of time critical information with others. `Ting-stay connected' is an application that focuses on PINGING vital information among a circle of users such that each member in a circle has the personal information of other members in their circle and can use this information to save the other from a tricky situation. Ting helps the users to stay connected by performing mutual tasks and continuous sharing of information such as current location, battery status and call logs with their trusted set of contacts without any interaction with the application. The application also provides a unique feature called EMERGENCY ALERTS which enables the user to inform family or friends about the problematic situations he or she might be facing. As the application is developed using Cordova and PhoneGap technology, it can be implemented in various platforms like IOS, Android, Blackberry and Windows easily. The paper focuses on the design of TING, its implementation and further compares TING with some existing popular personal safety software.

Published in: 2017 International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT)

Date of Conference: 24-26 Nov. 2017

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INSPEC Accession Number: 17789288

DOI: 10.1109/MSPCT.2017.8363976

Publisher: IEEE

Conference Location: Aligarh, India

I. Introduction

Safety of people, no matter their age, gender and ethnicity, is a cause of great concern in today's cut throat world. Many a times people face situations wherein it seems impossible for them to inform their family or friends about their location, battery status or similar information. This calls for a safety application that will be a solution to all safety related issues. A study on Violence Against Women (VA W) made in 2014 insists that technology can playa vital role in preventing V A W [1]. Ting is an application which once installed and made ready to use, immediately starts its job of continuously 'pinging' the current location, call logs and battery status to the preferred circles. It consists various features which include the formation and management of multiple circles. These circles are nothing but groups created by the user with contacts of their own choice. The members

Fuzzy clustering algorithm intended for mining software services on the cloud

Publisher: IEEE

Cite This | PDF

Dhanamma Jagli ; Seema Purohit ; N. Subash Chandra All Authors

Abstract:
In the current technological era, the use of computers becomes an essential part of our life. The Internet has been become as mandatory in the human-being life. The cloud computing has the potential to transform the current static Internet into a fully integrated future Internet. It is a style of computing in which resources are provided "as a service" to users who need not have knowledge or expertise and or control over the infrastructure. The cloud computing technology has become a popular and necessary in the present decade. The cloud computing is the way of sharing resources for the use of various resources via the internet. Hence there are many cloud service providers are competing with each other in order to provide cloud services to the cloud users. In fact, the growth of cloud users has been increased tremendously from last decade to the present decade. In directives to provide right cloud service to users is aimed at almost all cloud service providers. The cloud service providers are also increasing many features of their cloud service products to attract the cloud service users. But cloud service users are facing difficulties to select the right service from a pool of cloud services. Hence it has become necessary for cloud service users to evaluate cloud services and select the best one, for this purpose a new evaluation model has been proposed in this paper based on data mining Fuzzy clustering algorithm.

Published in: 2017 International Conference on Advances in Computing, Communication and Control (ICAC3)

Date of Conference: 1-2 Dec. 2017

Date Added to IEEE *Xplore*: 19 March 2018

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DOI: 10.1109/ICAC3.2017.8318785

Publisher: IEEE

Conference Location: Mumbai, India

I. Introduction

The cloud computing has been growing as an essential and a leading computing platform for sharing resources. The Cloud computing is playing a vital role as a backbone component of the Internet of Things (IoT). The cloud computing is the elegance of computing in which vigorously scalable and regularly virtualized resources are provided as a service through a web browser via the Internet [1] [2]. The cloud computing is a

Computational Vision and Bio Inspired Computing pp 1108-1116 | Cite as

Combining Diffusion Filter Algorithms with Super–Resolution for Abnormality Detection in Medical Images

Authors Authors and affiliations

Shilpa Joshi, R. K. Kulkarni

Conference paper
First Online: 20 February 2018

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB, volume 28)

Abstract

One of the most significant areas of image research is Image Enhancement. The main aspect of image enhancement involves the improvisation of the visual manifestation of an image. Poor contrast and noise affect many kinds of images today, such as satellite images, remote sensing images, medical images, real-life images and electron microscope images. Therefore, noise removal and resolution increment are important as well as necessary to ensure and enhance the quality of images. There are many imaging modalities and each of them performs different functions ranging from the provision of information about human anatomy/structure to the provision of location statistics about specific activities and tasks. Physical constraints of system detectors—which are tuned to signal-to-noise and timing considerations are used to determine the resolution of imaging systems. The hybrid techniques designed n this paper uses algorithms are mostly based on standard diffusion filters and SR algorithms. Results demonstrate the potential in introducing SR techniques into practical medical applications.

Alleviation of quantization artifact using anti-forensic in image processing

Publisher: IEEE

Cite This

PDF

Anish Kumar Singh ; Chandan Singh Rawat ; Anuradha Bhatia All Authors

Abstract:
There are various image forensic methods that are available, which identify image tampering but these techniques are unable to address the anti-forensics method which are capable to hide the trace of image tampering. In this paper, a Dither based image compression technique for the removal of Quantization Artifact of Discrete Cosine Transform (DCT) based compressed image is proposed. Initially, the discrete cosine transform is applied on 8×8 blocks of input image to get the transform coefficients. The transform coefficients are than quantized with the help of quantization table which results in formation of quantization artifact in DCT based compressed image. To remove quantization artifact, an anti-forensic technique has been developed with the help of Anti-forensic dither. The execution of the proposed strategy is approved by utilizing PSNR and Structural SIMilarity (SSIM) list quality measurements. Higher estimations of these parameters in compression to some current compression procedure shows productivity of the proposed technique.

Published in: 2017 International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS)

Date of Conference: 1-2 Aug. 2017

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ISBN:978-1-5386-1888-2

INSPEC Accession Number: 17859055

DOI: 10.1109/ICECDS.2017.8389944

Publisher: IEEE

Conference Location: Chennai, India

I. Introduction

A visual image contains tremendous measure of data which is equal to a large number of words. Because of utilization of digital image being more mainstream in our general public, these days image altering devices are extremely well known because of its effortlessly accessibility. Computerized image phonies have turned out to be simple without leaving proof, which are effortlessly perceived by human eyes. So credibility and

Optical properties of photonic crystal waveguide

Publisher: IEEE

Cite This

PDF

Neelam Garud ; Manisha Chattopadhyay All Authors

Abstract:
Photonic Crystal (PhC) comprising of dielectric rods circumjacent by air placed in two dimensions are discussed in this paper. The formed structure of 2D PhC of dielectric rods is compared with another structure of dielectric veins with air holes. If light is forbidden to propagate inside the lattice, it will act as mirror throughout. This property can be used to construct waveguide by introducing defect in the perfect crystal. The defect is created by removing a row of rods (air holes) to design a linear waveguide that operate on a selective wavelength. Optical properties of the formed waveguide are examined for both square and hexagonal lattice. The effect of different optical materials as GaAs, GaP, Si on wave propagation inside the guide at 1550nm is observed. The radius is varied and its corollary is observed.

Published in: 2016 International Conference on Control, Instrumentation, Communication and Computational Technologies (ICCICCT)

Date of Conference: 16-17 Dec. 2016

Date Added to IEEE *Xplore*: 24 July 2017

ISBN Information:
Electronic ISBN:978-1-5090-5240-0
DVD ISBN:978-1-5090-5239-4
Print on Demand(PoD) ISBN:978-1-5090-5241-7

INSPEC Accession Number: 17058821

DOI: 10.1109/ICCICCT.2016.7988018

Publisher: IEEE

Conference Location: Kumaracoil

I. Introduction

Photonic crystal providing control over flow of light due its structure is attracted by research scholars and scientist. The name "photonic crystal" was coined in 1987 [1]. As photonic crystal is just in its blooming stage, a detailed research on their properties will open roads to cater wide varie

y articles show that work

Drunk driving and drowsiness detection

Publisher: IEEE

Cite This

PDF

Nadir N. Charniya ; Vivek R. Nair All Authors

Abstract:
Development of safety features to prevent drunk and drowsy driving is one of the major technical challenges in the automobile industry. Driving while being drunk or drowsy is a major reason behind road accidents especially in the modern age. Driving when drowsy can lead to higher crash risk than being in alert state. Therefore, by using assistive systems to monitor driver's level of alertness can be of significant help in prevention of accidents. This paper aims towards the detection of driver's drowsiness using the visual features approach along with drunk detection using alcohol sensor. Driver drowsiness is based on real-time detection of the driver's head, face and mouth, where-in HAAR-Cascade classifier for face and eye detection and template matching in the mouth region for yawning detection. The system will also have an alcohol detection sensor which will determine whether the driver is drunk or not, thus covering the major reasons behind road accidents.

Published in: 2017 International Conference on Intelligent Computing and Control (I2C2)

Date of Conference: 23-24 June 2017

INSPEC Accession Number: 17650825

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DOI: 10.1109/I2C2.2017.8321811

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Electronic ISBN:978-1-5386-0374-1
Print on Demand(PoD)
ISBN:978-1-5386-0375-8

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Driving while drowsy or in drunk state, are the two main reasons for traffic accidents and the related financial losses. Researchers have been working on designing driver drowsy monitoring systems over the last decade. Though, there have been numerous improvements in driver safety, yet a significant number of serious accidents still occur all

Photonic crystal based Y-junction 1 × 2 power splitter

Publisher: IEEE

Cite This PDF

Garud Neelam ; Chattopadhyay Manisha ; Kundu Tapanendu All Authors

Abstract:
For two dimensional photonic crystal containing of silicon cylinders placed on a hexagonal lattice structure, a Y-junction 1 × 2 power splitter is obtained in this paper. The splitter is designed to obtain an equal transmission at both the output ports. The optimal process for designing is discussed in detail. The design is simulated over the frequencies that lie inside optical window. The field is computed over the entire crystal using finite element method. The optimized design gives low loss transmission at optical telecommunication wavelength of 1550nm.

Published in: 2017 IEEE International Conference on Electrical, Instrumentation and Communication Engineering (ICEICE)

Date of Conference: 27-28 April 2017

Date Added to IEEE *Xplore*: 14 December 2017

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ISBN:978-1-5090-5921-8

INSPEC Accession Number: 17419001

DOI: 10.1109/ICEICE.2017.8191868

Publisher: IEEE

Conference Location: Karur, India

I. Introduction

Photonic crystal (PhC) pose strong potential to tailor the flow of light due to their structural properties. PhC are materials with varying periodicity of the index of refraction that influence formation of photonic modes. The periodicity of the dielectric constant manifest a band of frequencie

tromagnetic wave is forbidden through the crystal, termed as photonic bandgap [1]–[6]. This unique feature can be used to design waveguide bends, cavities to trap light, mirrors, optical resonators,

Simulation of temperature sensor based on photonic crystal fiber using Sagnac interferometer

Publisher: IEEE

Cite This

PDF

Amrita Banerjee ; Manisha Chattopadhyay All Authors

Abstract:
In the presented work we describe about new class of optical sensors. These optical fiber sensors can be designed using photonic crystal fibers. The optical fiber network has grown and roughly 35% of high speed communication is done through it. We propose a novel photonic crystal fiber application other than regular communication as a sensitive temperature sensor. In the current paper we have demonstrated proof-of-concept of a modern thermometer using photonic crystal fiber (PCF). This paper shows that propagation angle varies due to the change in birefringence which depends on the temperature. The paper also explains the use of the Sagnac interferometer for such application. Sensitivity of the PCF sensor with respect to operating wavelength is calculated from simulation and the values are 0.109, 0.123 and 0.147 rad/°C-m for 543, 975 and 1310nm incident light respectively.

Published in: 2017 2nd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology (RTEICT)

Date of Conference: 19-20 May 2017

Date Added to IEEE *Xplore*: 15 January 2018

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ISBN:978-1-5090-3705-6

INSPEC Accession Number: 17472635

DOI: 10.1109/RTEICT.2017.8256800

Publisher: IEEE

Conference Location: Bangalore, India

I. Introduction

In the past the classic optical fibers were utilized into various fields of telecommunication and also have provided effective solutions for various sensing technologies based on their light guidance properties. Over the last ten years a new category of optical fibers has been developed known as [illegible]e photonic crystal fiber was developed and fabricated [illegible]. Figure 1.

Schematic diagram of photonic crystal fibre

Performance evaluation of satellite image resolution enhancement techniques based on wavelet transform

Publisher: IET

Vineet Vilas Naik ; Saylee Gharge All Authors

Abstract:
The Resolution Enhancement (RE) algorithms for satellite images have been proposed to overcome the drawbacks (losing high frequency content) of interpolation. In this paper, the Dual Tree Complex Wavelet Transform (DTCWT) based algorithm has been implemented where DTCWT is used to decompose the image into its subbands. Lanczos Interpolation is performed to increase the resolution of the subband images. To remove the artifacts generated in the image due to interpolation, Non Local Means filtering (NLM) is used. The High Resolution (HR) image is obtained by using the Inverse DTCWT which reconstructs the image from the subbands. Peak Signal to Noise Ratio (PSNR), SSIM (Structural Similarity Index) and Quality Index (Q-Index) are calculated for a database of 40 grayscale images with the resolution of 256x256. These parameters are used to evaluate the performance of the implemented techniques. These results along with the visual results prove the superiority of the DTCWT based algorithm with NLM filtering.

Published in: 3rd International Conference on Electrical, Electronics, Engineering Trends, Communication, Optimization and Sciences (EEECOS 2016)

Date of Conference: 1-2 June 2016

Date Added to IEEE *Xplore*: 07 June 2018

ISBN Information:
Electronic ISBN:978-1-78561-827-7
Print ISBN:978-1-78561-826-0

INSPEC Accession Number: 17693871

DOI: 10.1049/cp.2016.1498

Publisher: IET

Conference Location: Tadepalligudem

Gabor feature extraction of mixed fingerprint template

Publisher: IEEE

Cite This PDF

Shancymol Sojan ; R. K. Kulkarni All Authors

Abstract:
Biometrics based authentication systems face the major challenge in securing the template. Although multi-modal biometric techniques and cryptographic techniques offer security but they can be easily compromised. This paper explores the possibility of combining features from the same biometric trait (fingerprints) i.e. keeping it unimodal but still offering the same security as that of the combined biometrics. In this paper, using minutiae and orientation features from two different fingerprints, a new unique mixed fingerprint template is generated. The advantage of creating the mixed template is that it is cancellable and serves as a new virtual identity. Further Gabor feature of the mixed template is extracted before matching to reduce the error rate. Testing the templates is done using 2 methods, viz: correlation based and minutiae based. These two methods were effective in identifying the templates accurately. The FAR=0.08% and FRR=0.1%.

Published in: 2017 IEEE International Conference on Electrical, Instrumentation and Communication Engineering (ICEICE)

Date of Conference: 27-28 April 2017

Date Added to IEEE *Xplore*: 14 December 2017

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INSPEC Accession Number: 17430977

DOI: 10.1109/ICEICE.2017.8191941

Publisher: IEEE

Conference Location: Karur, India

I. Introduction

Biometric authentication based systems are gaining popularity due to the inherent advantage of security, privacy and uniqueness. They have a high end over passwords and PINS due to a comparative lower risk of being stolen or misused. Different biometric traits like fingerprint, iris, face, palm, gesture, gait etc can be used in various applications system accessibility [1], [2]. A[illegible] used due to uniqueness, diversity, revocability and security. Lack of proper protection of the template

Publications
for
Academic Year: 2016-17

Analysis of associativity among mirror neurons for financial profiling

Publisher: IEEE

Cite This

PDF

Tarun Dash ; Vinayak Jaiswal ; Anoosha Sagar ; Gaurav Vazirani ; Nupur Giri All Authors

Abstract:
Mirror neurons, observed first in macaque monkeys, are neurons which fire not only on the performance of an action but also during the perception of the same action by some being. This paper presents the application of the concept of mirror neurons in financial profiling. In addition, this concept has been extended to establish associativity among the mirror neurons. This financial application makes use of stock market data from the official Bombay Stock Exchange (BSE) Web site and uses the concepts of artificial neural networks, hierarchical agglomerative clustering, and dimensionality reduction for implementation. The performance of this system has been established using the concept of root mean square error.

Published in: 2016 Second International Conference on Cognitive Computing and Information Processing (CCIP)

Date of Conference: 12-13 Aug. 2016

INSPEC Accession Number: 16563467

Date Added to IEEE *Xplore*: 02 January 2017

DOI: 10.1109/CCIP.2016.7802869

ISBN Information:

Electronic ISBN:978-1-5090-1025-7

Print on Demand(PoD)

ISBN:978-1-5090-1026-4

Publisher: IEEE

Conference Location: Mysuru, India

I. Introduction

Since the detection of mirror neurons in macaque monkeys [1], it has witnessed a wide variety of applications ranging from learning movement sequences [2] to syntax acquisition [3]. But its potential in solving many computer science problems is yet untapped. This paper provides a method for extending this novel concept to the field of financial profiling. This paper presents a model which analyses the associativity among

Analyzing associativity among mirror neurons for financial profiling: A proposal

Publisher: IEEE

Cite This

PDF

Tarun Dash ; Vinayak Jaiswal ; Anoosha Sagar ; Gaurav Vazirani ; Nupur Giri All Authors

Abstract:
One of the most exciting subfields of neuroscience is the discovery of mirror neurons. Discovered first in macaque monkeys, but now also observed in humans, a mirror neuron is a neuron which fires not only when one performs a particular action, but also when one observes the same. Several applications from various domains exist which make use of this novel concept but none yet exist for the financial domain. This paper makes an effort to realize the concept of mirror neurons for financial profiling. This paper presents the ideas which will be used for realizing such a system. The system developed will make use of mirroring parameters for estimating fluctuations in stock prices more accurately. The system proposed at the end of this paper will be a prototype for future implementation.

Published in: 2016 International Conference on Computing Communication Control and automation (ICCUBEA)

Date of Conference: 12-13 Aug. 2016

Date Added to IEEE *Xplore*: 23 February 2017

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Print on Demand(PoD)
ISBN:978-1-5090-3292-1

INSPEC Accession Number: 16692974

DOI: 10.1109/ICCUBEA.2016.7860034

Publisher: IEEE

Conference Location: Pune

I. Introduction

Neural Networks is an exciting field of Artificial Intelligence with a wide variety of applications such as pattern matching, function fitting, and clustering. The discovery of mirror neurons in macaque monkeys [1] marked the genesis of exciting new sub area of

A mirror neuron based neural network for website classification

Publisher: IEEE

Cite This

PDF

Nupur Giri ; Rahul Ravindran ; Riya Suchdev ; Yash Tanna All Authors

Abstract:
Mirror neurons become responsive whenever an animal performs a peculiar action or when it observes a certain action being performed. The discovery of these neurons in humans has explained quite a lot of our behaviour patterns. The decoding logic of these neurons forms the vital component to the proposed neural network in this paper. The backdrop to the central idea of mirror neurons is the notion that people's behaviour tends to effect the way in which they browse the web. Using these ideas a neural network can be built based on the working of mirror neurons which can play a vital role in classifying websites into categories. DMOZ provides an open directory of websites and using this large database as a training set, the neural network is trained. The neural network is then subjected to websites that are not listed in DMOZ and are classified based on their mirroring percentage. The decoding principles of mirror neurons are discussed and their role in the foundation for the design of the neural network is explained in detail. The results obtained can be used to effectively classify new websites into one of the DMOZ categories.

Published in: 2015 International Conference on Computers, Communications, and Systems (ICCCS)

Date of Conference: 2-3 Nov. 2015

Date Added to IEEE *Xplore*: 08 September 2016

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Electronic ISBN:978-1-4673-9756-8
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INSPEC Accession Number: 16285298

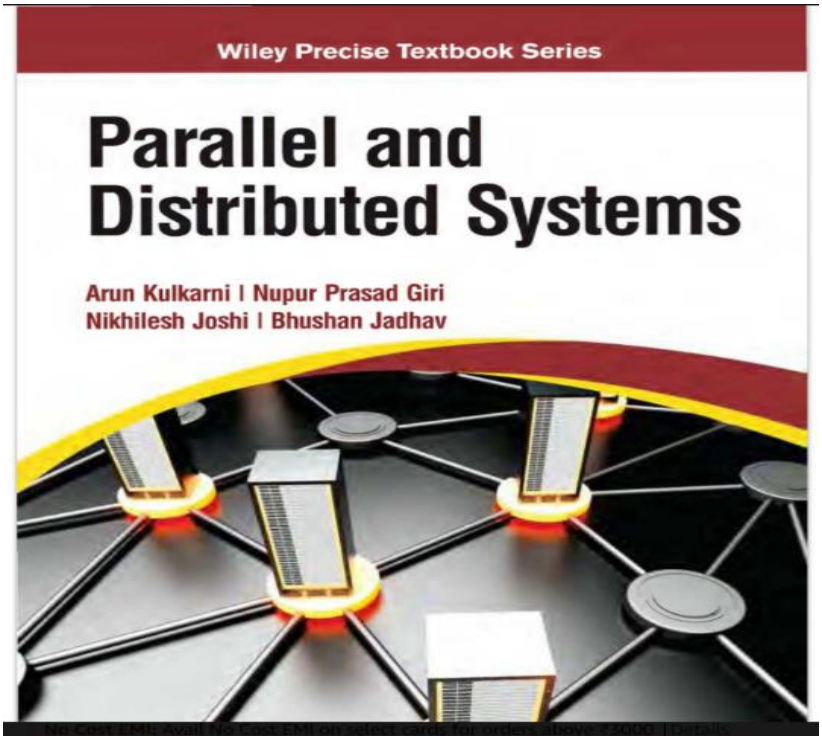
DOI: 10.1109/CCOMS.2015.7562909

Publisher: IEEE

Conference Location: Kanyakumari, India

I. Introduction

Mirror neurons come into the picture whenever animals observer others performing an



Parallel and Distributed Systems

Arun Kulkarni
Associate Professor and Head, IT Department,
TSEC, Mumbai University

Dr. Nupur Prasad Giri
HOD - Computer Engineering,
Vivekanand Education Society's Institute of Technology,
Department of Computer Engineering, Mumbai

Nikhilesh Joshi
Assistant Professor, IT Department,
TSEC, Mumbai University

Bhushan Jadhav
Assistant Professor, IT Department,
TSEC, Mumbai University

WILEY

Contents

Determination of Porosity of Rock Samples from Photomicrographs Using Image Analysis

Publisher: IEEE

Cite This

PDF

Debabrata Datta ; Nikhil Thakur ; Suvobrat Ghosh ; Ramit Poddar ; Sharmila Sengupta All Authors

Abstract:
Reservoirs are the porous and permeable rocks that contain commercial deposits of hydrocarbons. Porosity is a very important property of reservoirs. This paper presents a method of determining the porosities of different types of rocks based on image analysis. Stereological research for analysis of porosity were conducted by traditional methods before image analysis which were time consuming and lacked accuracy. The method proposed determines the porosity by computing the part of the whole sample for which the pores account. The steps involved in the above method are a series of contextual, non-contextual and morphological operations that are commonly used in image processing and analysis. The procedure was tested on thin sections of sandstone and limestone rock samples. The results were computed in the form of total porosity which includes all types porosities observed in rocks including isolated and connected porosities. The porosity obtained can also be called as visual porosity as it is being determined from photomicrographs. Values obtained show that the method proposed can lead to satisfying results. Obtained porosity values can be used further to determine determine other important properties of reservoir like permeability.

Published in: 2016 IEEE 6th International Conference on Advanced Computing (IACC)

Date of Conference: 27-28 Feb. 2016

Date Added to IEEE *Xplore*: 18 August 2016

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Print on Demand(PoD) ISBN:978-1-4673-8287-8

INSPEC Accession Number: 16232599

DOI: 10.1109/IACC.2016.67

Publisher: IEEE

Conference Location: Bhimavaram, India

I. Introduction

Rock is considered as a natural porous material. The study of composition, distribution and structure of rocks is referred to as petrology. Petrography is a branch of petrology that focuses on detailed description and classification of rocks especially by microscopic examination of thin section of rocks. Many engineering problems in rock mechanics and engineering geology are close

or example, the evaluation of rock reservoir productivity in oil and gas exploration, some major disasters

An enterprise-friendly book recommendation system for very sparse data

Publisher: IEEE

Cite This

PDF

Tejash Desai ; Sahil Gandhi ; Pranav Murlidhar ; Sankalp Gupta ; M. Vijayalakshmi ; G. P. Bhole All Authors

Abstract:
Recommendation systems designed using biclustering handle the existing duality between users and items, which is not observed in other popular approaches. However, biclustering is generally limited by sparsity in the data and usually requires huge computational powers. In this paper, we propose a ready-for-enterprise book recommendation system using the biclustering algorithm. Our proposed algorithm consists of a hybrid approach containing an initial cluster phase which is taken as input for a biclustering phase. We show that our approach not only proves to be scalable dealing with large amounts of sparsity but also produces results with error values comparable to other state-of-the-art approaches, thereby making it enterprise-friendly.

Published in: 2016 International Conference on Computing, Analytics and Security Trends (CAST)

Date of Conference: 19-21 Dec. 2016

Date Added to IEEE *Xplore*: 01 May 2017

INSPEC Accession Number: 16852804

DOI: 10.1109/CAST.2016.7914968

Publisher: IEEE

Conference Location: Pune, India

ISBN Information:
Electronic ISBN:978-1-5090-1338-8
Print on Demand(PoD) ISBN:978-1-5090-1339-5

I. Introduction

With the tremendous growth of social media and e-commerce, recommendation systems have garnered a lot of commercial value in recent times. Showing a user items that are pertaining to his/her likings increases the user-experience, thereby increasing number of transactions he/she undertakes on the platform. According to a 2013 interview by Todd Yellin, Vice President of Product Innovation at entertainment giant Netflix, "About 75 to 80

Comparative analysis of image quality measures

Publisher: IEEE

Ashish Devnani ; C. D. Rawat All Authors

Abstract:
This paper consists of a comparative analysis of full reference image quality measures. The quality evaluation model of Peak signal to noise ratio (PSNR), Structural Similarity Index (SSIM) as well as Visual Information Fidelity (VIF) has been discussed. This paper emphasizes on the quality evaluation of images after their recovery from their noisy counterparts. The image quality assessment algorithms discussed are used to develop further image processing algorithms so that quality of images recovered is superior. The paper stresses on the image quality metrics from the point of view of correlation with subjective measure of image quality for successful implementation in research and development in the image processing industry.

Published in: 2016 International Conference on Global Trends in Signal Processing, Information Computing and Communication (ICGTSPICC)

Date of Conference: 22-24 Dec. 2016

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ISBN:978-1-5090-0468-3

INSPEC Accession Number: 16980342

DOI: 10.1109/ICGTSPICC.2016.7955327

Publisher: IEEE

Conference Location: Jalgaon, India

I. Introduction

We are currently in the internet age where images are of a great importance to express ideas, concepts etc. With growing penetration of images in the internet it has become increasingly important to monitor the quality of images which are being displayed for a certain purpose. Image quality assessment is one of the challenging fields of digital image processing systems. Image quality is defined as a characteristic of an image that measures the perceived image degradation as compared to a reference image. It can be

Hardware and software implementation of weather satellite imaging earth station

Publisher: IEEE

Cite This

PDF

Chinmay Patil ; Tanmay Chavan ; Monali Chaudhari All Authors

Abstract:
Monitoring weather patterns and interpreting satellite images is one of the most widely utilized applications of remote sensing. Satellites have been used over the past several decades to obtain a wide variety of information about the earth's surface. In spite of that, huge expenses, poor resolution of the images, and very low availability of useful information from them have always been among the top issues faced by satellite enthusiasts. Fine reception of these images and extraction of relevant information is easier said than done. This paper aims to decrease the cost of imaging substantially, and greatly improve availability of such images. By making use of locally available raw materials, an antenna was constructed and tested with good results that could receive fine APT signals from NOAA 15, 18, 19. [1] Using synch pulses as reference, the audio signals were decoded into an image in MATLAB. Filtering, cross correlation and noise reduction were some of the steps implemented to form the image. This system thus provides a comprehensive solution for receiving satellite images with a Software Defined Radio, an appropriate antenna and various application environments for decoding the audio signals into an intelligible image. It requires very less processing power thus making weather forecasting quite convenient for the common man. It is therefore a low cost and a homebrew elucidation of a technique that is otherwise regarded as quite sophisticated by space enthusiasts.

Published in: 2016 International Conference on Advances in Computing, Communications and Informatics (ICACCI)

Date of Conference: 21-24 Sept. 2016

Date Added to IEEE *Xplore*: 03 November 2016

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Electronic ISBN:978-1-5090-2029-4
USB ISBN:978-1-5090-2028-7
Print on Demand(PoD) ISBN:978-1-5090-2030-0

INSPEC Accession Number: 16429639

DOI: 10.1109/ICACCI.2016.7732122

Publisher: IEEE

Conference Location: Jaipur, India

I. Introduction

Satellite Image Acquisition is one of the most explored domains in satellite

A new method of reconfigurable ADC using calibrated programmable slopes

Publisher: IEEE

Cite This

PDF

Jayamala Adsul ; P. P. Vaidya ; J. M. Nair All Authors

Abstract:
The paper explores a new technique for improving and optimizing the resolution and conversion time of reconfigurable Analog to Digital Convertor (ADC) using programmable slopes. The most commonly used and simple way of analog to digital conversion using single slope technique requires two to the power of N number of bits (where N is ADC resolution) clock cycles to convert full scale voltage. As the number of bits increases, conversion time also increases. This limitation of high conversion time for high resolution is addressed by a reconfigurable programmable slope ADC. The reconfigurability in this ADC is achieved by changing the slope of ramp during conversion which is utilized to optimize its resolution and conversion time. The programmable slopes of ramp are obtained using programmed current sources which are made using low cost DACs and are calibrated to the required accuracy using a simple technique described in the paper. A two slope 12-bit ADC was designed and simulated using MultiSim 13.0, test results of which are presented in the paper. Using this method the conversion time is scaled down even at reduced clock frequency. Because of reduced clock frequency, the problems of noise pickup and high power dissipation associated with high clock frequency are also avoided. It is also possible to use different clock frequencies during each slope for further optimization of resolution and conversion time.

Published in: 2016 International Conference on Communication and Electronics Systems (ICCES)

Date of Conference: 21-22 Oct. 2016

Date Added to IEEE *Xplore*: 30 March 2017

▸ **ISBN Information:**

INSPEC Accession Number: 16776305

DOI: 10.1109/CESYS.2016.7889985

Publisher: IEEE

Conference Location: Coimbatore, India

I. Introduction

Reconfigurable Analog to Digital converters (ADC) are the ADCs which can be configured to obtain optimum performance with respect to important performance parameters such as resolution, conversion time and power dissipation etc. There is a requirement for development of such ADCs in the field of multi-standard communication [1], wireless networking [2], and signal processing for sensors [3]. Different types of ADCs have been reconfigured [4]–[8] using various techniques. In this paper we present the designing and simulation of reconfigurable programmable slope ADC circuit which has been tested using MultiSim 13.0 developed by National Instruments. The Integrating

Implementation of K-means clustering for evaluating SaaS on the cloud computing environment

Publisher: IEEE

Cite This | PDF

Dhanamma Jagli ; Seema Purohit ; Subash Chandra Nalla All Authors

Abstract:
The current trend in the technology have been drastically changed. The usage of latest technology, cloud computing become a central attraction in everywhere for sharing resources. Software as a Service (SaaS) is the most important part of cloud computing, it can be used for providing various business solutions. In the real world, many organizations had successfully implemented this concept. Henceforth demand for Software as a Service (SaaS) has been tremendously increased by end users as well as by a service provider, but still, it is a big challenging task for cloud service providers to evaluate their services, provided to the end user. It is also difficult for end users to find out the potential software services in the cloud computing environment. In this paper, the solution for evaluating SaaS quality attributes is provided by using K-means clustering algorithm. This paper initially, describes the motivation for evaluating SaaS on the cloud-computing environment with the problem description. Secondly, it's describing the various issues and challenges for evaluating software services on the cloud computing. Thirdly, it explains about the proposed work in evaluating Software as a Service. Finally, the solution to the identified problem is implemented and analyzed the results.

Published in: 2016 International Conference on ICT in Business Industry & Government (ICTBIG)

Date of Conference: 18-19 Nov. 2016
Date Added to IEEE *Xplore*: 06 April 2017
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Print on Demand(PoD) ISBN:978-1-5090-5516-6
INSPEC Accession Number: 16792070
DOI: 10.1109/ICTBIG.2016.7892687
Publisher: IEEE
Conference Location: Indore, India

I. Introduction

Cloud Computing, as well known as on-demand computing, is a form of Internet-based computing, where resources like data and information are provided as shared resources with any devices on demand [1]. (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. It

to achieve coherence

Conference Paper

Formation of Cobweb Model for SaaS on the Cloud Computing

March 2017

Conference: IndiaCom2017

Project: Project on credit evaluation for Banks

Authors:

Dhanamma SHANKAR Jagli
Vivekanand Education Society's Institute ...

Seema Purohit
Brihan Maharashtra College of Commerce...

N. Subhash Chandra
Holy Mary Institute of Tec

References (13)

Abstract

A new computing paradigm cloud computing has emerged and that is transforming the IT industry at large. In cloud computing, services are accessible via the internet. The usage of cloud services has been increased by many users. This paper has described the simulation Cobweb model. The Cobweb Model has been formed intended for evaluating the eminence usage of software as a service (SaaS) on the cloud. The formation of the cobweb model has been studied, analyzed and plotted for SaaS to understand the usage and developing a SaaS product as per the requirements of Software service users.

NFC and NFC payments: A review

Publisher: IEEE

Cite This

PDF

Nahar Sunny Suresh Shobha ; Kajarekar Sunil Pravin Aruna ; Manjrekar Devesh Parag Bhagyashree ; Kotian Siddhanth Jagdish S... All Authors

Abstract:
Near Field Communication (NFC) as a form of technology has seen many improvements in recent years due to the increasing availability of NFC enabled devices. It is used for short range communication and based on the existing standards of Radio frequency identification (RFID) infrastructure. Simple and safe bidirectional communication between NFC enabled devices is made possible by this technology. In this review paper, NFC technology is put forward with respect to its implementation, operating modes, its application in the form of tags as well as payments and its standards and protocols. NFC application in the field of payments is explained with the help of NFC device architecture. Basic NFC forum architecture and threats with respect to this technology are also discussed.

Published in: 2016 International Conference on ICT in Business Industry & Government (ICTBIG)

Date of Conference: 18-19 Nov. 2016

INSPEC Accession Number: 16792045

Date Added to IEEE *Xplore*: 06 April 2017

DOI: 10.1109/ICTBIG.2016.7892683

▼ ISBN Information:
Electronic ISBN:978-1-5090-5515-9
Print on Demand(PoD)
ISBN:978-1-5090-5516-6

Publisher: IEEE

Conference Location: Indore, India

I. Introduction

Wireless Technology is fast replacing the wired technology. A gain of 128 percent in the shipments of phones equipped with wireless technology rose from 120 million to 275 million in 2013. According to Information Handling Service (IHS), from 2013 through the end of 2018 shipments could grow 325 percent [1]. End users now expect that a single device can be used to access unication, entertainment and commerce. This has bro of contactless technology, NFC being one of them. NFC has many applications including contactless

MFCC based noise reduction in ASR using Kalman filtering

Publisher: IEEE

Anuradha P Nair ; Shoba Krishnan ; Zia Saquib All Authors

Abstract:
Speech enhancement using Kalman filter is an extensively researched area. The vast majority of work done in this area uses linear predictive coding (LPC) for modeling speech signal. A few important studies have revealed the superiority of Mel Frequency Cepstral Coefficients (MFCC) over LPC for speech recognition. With this paper, the shortcomings of speech enhancement using LPC with Kalman filters have been elaborated and MFCC, a much more favored technique is used along with Kalman filter to ascertain proficient parameters from a noisy signal, which can be used for Automatic speech recognition (ASR).

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I. Introduction

Automatic speech recognition is a technology which manoeuvres machines to deduce words spoken by humans [4]. The advancement in the fundamental approaches and new developments has led to evol... the recognizers developed are trained with sp... noise free environment. But, in real environment, the speech gets affected by the medium it passes through and this result in poor function of the recognizers in noisy environments

Satellite image resolution enhancement using DTCWT and DTCWT based fusion

Publisher: IEEE

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PDF

Vineet Vilas Naik ; Saylee Gharge All Authors

Abstract:
To increase the resolution of any image, interpolation techniques are adopted. The high frequency components in the low resolution (LR) image are lost when the images are interpolated. To overcome this problem a new satellite image resolution enhancement algorithm based on Dual Tree Complex Wavelet transform (DTCWT) and its rotated version have been proposed. DTCWT and Rotated DTCWT give 32 subbands of an image, out of which 24 are high frequency (HF) subbands which give 12 different angular information and 8 are low frequency (LF) subbands. The HF subbands are interpolated by Lanczos Interpolation to preserve the high frequency contents of the image. Non Local Means (NLM) filtering is used to eliminate the artifacts which are generated by DTCWT and rotated DTCWT. To obtain the two enhanced high resolution images inverse transforms are performed over respective subbands. The final two high resolution (HR) images are fused together with DTCWT based fusion to give resolution enhanced HR image. To evaluate the performance of the proposed algorithm three performance parameters namely PSNR, SSIM and Q-Index are evaluated for a database of 60 grayscale images of resolution 256×256. The subjective and objective results are compared with the existing techniques to prove the superiority of the proposed algorithm.

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Conference Location: Jaipur, India

I. Introduction

Satellite images are widely used these days for various applications such as astronomy, military surveillance geoscience studies etc. The satellite images contain very much detailed information about the characteristics of the captured area. In this the resolution