

Institute Name	Vivekanand Education Society's Institute Of Technology
Institute ID	IR-E-C-33895
Discipline	Engineering
Parameter	Patents Details CY 2024

Patents Granted

1. Glitter Seal Authentication and Tamper Detection using Neural Networks

Dr. Nadir N. Charniya

Publication no. 201621006029 A

Date of Grant : 14.10.2024

Abstract- Physical tampering with devices is a growing problem and is a common issue among users who are concerned with security of their devices. Affixing tamper-proof seals over ports or chassis screws wonTMt be useful as these seals can be replicated or opened cleanly. Hence there is a need to create a seal that is impossible to copy. This can be achieved by applying glitter paint on the seal. Glitter paint, once applied, has a random pattern and hence it is difficult to replicate once broken. This paper presents a system using image processing techniques that will be able to detect tamper and also authenticate the seal. The image of the device with the seal applied on it would be taken before leaving it alone and upon returning of the device, another image would be taken. Radon transform and Local Binary Pattern Variance (LBPV) techniques are used to extract rotation invariant features after preprocessing technique and dominant features would be selected from the different set of features. Optimal neural network architecture with minimum number of hidden neurons was designed with a constraint of maximum classification accuracy.

2. System For Aiding Visually Impaired

Dr. Sharmila Siddhartha Sengupta

Application No.-202021016810

Patent Granted - 27.02.2024

Abstract-A system for aiding visually impaired, comprising: a handheld device comprising at least an interface unit configured to capture an image of an item and to receive a voice command in relation to the item from a visually impaired person, and further configured to translate the voice command into a text command for transmission by the handheld device; a recognition device configured to receive the captured image of the item and the text command from the handheld device, and further configured to process the captured image and the text command and generate a text output indicative of the item, and transmit the text output to the handheld device wherein the interface unit is further configured to synthesize an audio feedback from the received text output and provide the audio feedback on a speaker of the handheld device to enable the visually impaired person to recognize the item

Patents Filed and Published

1. Interactive self scanning,packaging, storing and delivering mechanical systems

Dr. Gresha Bhatia

Dr. Sharmila Sengupta

Application no. 202421050763

Date of Published : 03.07.2024

Abstract- System, an interactive, automated object acceptance, self-scanning using a CTX machine computer tomography producing comprehensive image of the object under examination, classifying into acceptable and non-acceptable object by self-determination method from the data available on dedicated platforms, self-packaging, placing the object in a designated location, using an electro mechanical and hydraulically operated system and making the said object available to the specified user on discrete approval

2. System And A Method For Remote Access Control to Sensitive Areas Using Crypto Card

Dr Gresha S Bhatia

Mrs. Abha Tewari

Published Application no. 202421017990

Date of Published :13.03.2024

Abstract-The disclosed invention presents a comprehensive system for remote access control, designated as system, embodying multiple innovative features. The system includes a camera and microphone integrated into an electronic device, particularly a laptop, for image and voice capture dedicated to user authentication. Employing advanced image processing and voice verification techniques, the electronic device undertakes the entire authentication process. Furthermore, the incorporation of a 4k NFC card and a corresponding NFC card reader enhances the system's capabilities by securely storing and processing user data. The storage unit, housing a database, preserves images of users' faces and voice audio during the registration process. Distinctive security measures include the system's ability to uniquely identify each user through face and voice inputs, fortified by liveness detection for face authentication, guarding against fraudulent attempts using images on mobile devices. Complementing the system's hardware, the invention introduces a method for ensuring maximum security in sensitive areas, encompassing steps such as crypto card verification, secret pin entry, face and voice authentication, and comprehensive user factor authentication against stored data. The disclosed system and method address the critical need for heightened security in various sectors, including data centers, healthcare facilities, government buildings, and research laboratories, by providing a multifaceted approach to remote access control.