



**Vivekanand Education Society's
Institute Of Technology**



Department Of Computer Engineering

PRAKALP 2023-24

A Project Book



PRAKALP '23

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5.1. DISPLAY OF PROJECTS

5.2. SMART INDIA HACKATHON

5.3. HACKATHONS AND COMPETITIONS

PRAKALP '23



Sr. No.	Area Of Specialization	B.E.	T.E.	S.E.
1.	AI, Deep Learning & DWM	14	19	04
2.	Big Data Analytics & Machine Learning	18	08	-
3.	IoT & Robotics	01	01	-
4.	Image Processing	04	01	-
5.	Networking, Security & Blockchain	03	02	-
6.	High Performance & Cloud Computing	01	01	-
7.	Application Design & Product Development	12	21	45
	Total Projects	53	54	49

I. B.E. PROJECTS

1. AI, Deep Learning & DWM

1.1.	Driver alert and assistance for unsafe road and weather conditions
1.2.	Smart Driving Assistant Using AI
1.3.	Generative AI for Flowchart Creation
1.4.	Plant Disease Detection
1.5.	Generation od Company Specific Ads(ADGenAI)
1.6.	HistoGrade: Histopathological Image based Oral Pre Cancer-Grading using Machine learning
1.7.	AI for Insurance settlement
1.8.	“SolarSense”: Predictive Analytics for Solar Energy, The Smart Solar System Approach
1.9.	Alzheimer's Detection Using Deep Learning
1.10.	“Echo”: Voice Cloning and Synthesis

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

1. AI, Deep Learning & DWM

1.11.	AI-Enabled Crop Monitoring and Assessment using remote sensing
1.12.	Detection of missing substance
1.13.	Aatmanirbhar Sanchar - Chat Application
1.14.	AI Enabled Grievance Monitoring and Response System

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

2. Big Data Analytics & Machine Learning

2.1.	From Images to Insights : MRI-based Stroke Prediction
2.2.	PradushanCheck - Comprehensive Urban Air Quality Monitoring and Forecasting
2.3.	CaseSense Analytics
2.4.	BitPredict: Predictive Analytics for Bitcoin
2.5.	CMS physics with background noise using GNN
2.6.	MadhuVista : Your Diabetes Ally
2.7.	Plant Disease and Pest Detection
2.8.	Voice-based Parkinson's Disease Prediction using Machine Learning
2.9.	Cognitive Assessment using EEG Data: Developing a Brain-Computer Interface for Cognitive Function Evaluation

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

2. Big Data Analytics & Machine Learning

2.10	Deep Learning Solutions for Autism Spectrum Disorder Characterization
2.11.	Liver Cirrhosis Prediction System Using Random Forest
2.12.	Human Activity Recognition For Pedestrian Safety
2.13.	Predictive Analysis of Carbon footprint for Forest Cover in India
2.14.	Heart diseases preduction system
2.15.	TasteFeels: The Next Frontier of Dining Enhancement with Facial Recognition
2.16.	Audio Emotion Recognition using Digital Stethoscope and Deep Learning Techniques
2.17.	Twitter user analysis
2.18.	Gauging Green Energy Feasibility and Output using ML

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

3. Internet of Things & Robotics

3.1.	Vehicle Ecosystem Using Blockchain and IoT
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-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

4. Image Processing

4.1.	Multi-Sensor Fusion for Enhanced Object Detection In Complex Environments
4.2.	Sign Detection and Dictation
4.3.	DetectWave - Scenario recognition from image
4.4.	Wireless Extraction of display panel system

-  **Grant Project**
-  **Industry Collaboration Project**
-  **TIFR Project**
-  **Patent Project**

I. B.E. PROJECTS

5. Networking & Security

5.1.	Innovest
5.2.	DeCAT- Decentralized Certificate Authority
5.3	SentinelHub-Blockchain-Powered Social Media Prototype

-  **Grant Project**
-  **Industry Collaboration Project**
-  **TIFR Project**
-  **Patent Project**

I. B.E. PROJECTS

6. High Performance & Cloud Computing

6.1.	ArogyaMitra: An Automated Health diagnostic system
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-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

7. Application Design & Product Development

7.1.	Remote Access Control to Sensitive areas using Crypto Card
7.2.	Package Delivery: One Stop Solution for Delivery
7.3.	Village Information system
7.4.	Masa Daily: A Fisherman's guide
7.5.	Drowsy Driver Detection System
7.6.	TechShare Rental System Application
7.7.	Electoral Insight 2024: Unveiling India's Future Political Landscape
7.8.	Social Media Investigations against Cybercrime: SocialSentinel
7.9.	AI-Enhanced Imaging for Early Detection of Brain Anomalies
7.10.	Reunite: harnessing face detection and age progression for missing person identification

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

I. B.E. PROJECTS

7. Application Design & Product Development

7.11.	Revenue and Expense Analyzer
7.12.	NexGen Linkup: Placements with senior expertise

-  **Grant Project**
-  **Industry Collaboration Project**
-  **TIFR Project**
-  **Patent Project**

II. T.E. PROJECTS

1. AI, Deep Learning & DWM

1.1.	Gesturely: Converting gestures to words
1.2.	Resilient Rivers: Empowering Flood-Free Futures
1.3.	Corporate Earnings Call analysis
1.4.	Psychalyzer: Early childhood Psychological Assessment
1.5.	Image Descriptor
1.6.	Lane Following and Navigation in a Self Driving Car using Reinforcement Learning
1.7.	Detection of Criminal activities through CCTV
1.8.	Tour Sentiments: Personalized recommendations system using AI and Deep Learning
1.9.	Smart board using hand gesture recognition
1.10.	Hand gesture recognition system using Convolution Neural Network (CNN)

-  **Grant Project**
-  **Industry Collaboration Project**
-  **TIFR Project**
-  **Patent Project**

II. T.E. PROJECTS

1. AI, Deep Learning & DWM

1.11.	Digitizing PDF content: OCR for typed and handwritten text to JSON / CSV
1.12.	FitVision: Smart posture analysis for effective workouts
1.13.	Smart Sorting: Deep learning-powered metadata creation for documentary video catalog
1.14.	Smart travel itinerary
1.15.	Dehazing of satellite images using Deep Learning
1.16.	CMS detector quality assurance using ML methods
1.17.	Medicine ordering system using IVR
1.18.	ParkinSense: A machine learning approach to classify Parkinson's disease
1.19.	CarboNeutral

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

II. T.E. PROJECTS

2. Big Data Analytics & Machine Learning

2.1.	Behavioral Analysis and Risk Assessment of Two-Wheeler Drivers
2.2.	Detection of issues caused by abnormal hormonal changes in menstruators using ML
2.3.	TravelSage: An AI-based system for Tourists
2.4.	CognitiveCare: A Comprehensive software for early detection & management of Alzheimer's disease and Mild Cognitive Impairment (MCI)
2.5.	Indian bird species recognition using deep learning
2.6.	Wireless extraction system for Industrial data
2.7.	TourQuest: Unveil & Experience
2.8.	Efficiency, speed & Parallel computing: Implementing CUDA for real-world applications

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

II. T.E. PROJECTS

3. Internet of Things & Robotics

3.1.	Ultrasound image analysis for detection of down syndrome
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-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

II. T.E. PROJECTS

4. Image Processing

4.1.	उपस्थिति: An attendance marking application using Facial Recognition of Kindergarten Students
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-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

II. T.E. PROJECTS

5. Networking & Security

5.1.	Smart vehicle complaint redressal system (SV-CRS)
5.2.	Data security using multimedia steganography
5.3.	Patient record system using blockchain

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

II. T.E. PROJECTS

6. Cloud Computing

6.1.	Virtual Lamp stack on cloud
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-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

II. T.E. PROJECTS

7. Application Design & Product Development

7.1.	Delivery X: Optimizing Delivery of Parcels
7.2.	Elderlyease: A friendly tour for the elderly
7.3.	Movie Review System
7.4.	Patient Management System
7.5.	Medicine Stock system for Health centres
7.6.	On-road vehicle breakdown assistance
7.7.	Journey Junction: Discovery, Connect, Travel! - Web Application
7.8.	Patient health monitoring system using ML
7.9.	NeuroCare - A Mobile Application for Personalized Migraine Care and Lifestyle Management
7.10.	Congenital heart disease prediction using AI
7.11.	Farm2Fork

-  **Grant Project**
-  **Industry Collaboration Project**
-  **TIFR Project**
-  **Patent Project**

II. T.E. PROJECTS

7. Application Design & Product Development

7.12.	Application of CUDA programming
7.13.	Job Grove
7.14.	Omega Vehicle Station (OVS)
7.15.	MedChat: A healthcare chatbot
7.16.	EmoSpeak: An emotionally intelligent TTS system for the visually impaired
7.17.	EmpowerHer App
7.18.	LearnScape: Unveiling education in AR and VR
7.19.	BrainScan AI
7.20.	ReadWiz - Text Analyzer (Summarizer and Paraphraser)
7.21	Sakhi - A women's friend

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project

III. S.E. PROJECTS



1. AI, Deep Learning & DWM

1.1.	Goal 3	Aspect Based Sentiment Analysis Of Hospital Reviews
1.2.	Goal 13	The Carbon Footprint of Global Tourism
1.3.	Goal 3	GesSpy: Gesture Detector
1.4.	Goal 3	Fetal Abnormalities Detection



SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD



III. S.E. PROJECTS



2. Product Design and Development

2.1.	Goal 4	Edusphere: Gayatri vidyalaya
2.2.	Goal 3	Healthcare Management System
2.3.	Goal 4	∞ Corridor : Corridor of Infinite Opportunities
2.4.	Goal 3	Heal It
2.5.	Goal 8	Travel Planner Application
2.6.	Goal 13	Vanya Sparsh
2.7.	Goal 8	Safar
2.8.	Goal 4	FarmCart
2.9	Goal 4	Intelligence Scholarship Program (ISP)
2.10	Goal 8	TravelHub: Your Journey, Your Way, Our Expertise

-  Grant Project
-  Industry Collaboration Project
-  TIFR Project
-  Patent Project



III. S.E. PROJECTS



2. Product Design and Development

2.11.	Goal 8	RAILEASE:Railway Concession Automation At VESIT
2.12.	Goal 11	GateGaurdian (Residential Entry Logging System)
2.13.	Goal 13	Airaware (Real-Time Weather and Pollution Insights)
2.14.	Goal 16	TaxSarathi
2.15.	Goal 8	Craftopia
2.16.	Goal 4	Attendance Management System
2.17.	Goal 9	QuickFixx: Professionals at your doorstep
2.18.	Goal 3	Sport Sphere 360
2.19	Goal 2	Nishulkh Bhojan Seva
2.20	Goal 9	AI based Music Generator: TarangAI



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



III. S.E. PROJECTS



2. Product Design and Development

2.21.	Goal 9	Plant Disease Classification using Machine Learning Algorithms
2.22.	Goal 3	Child Vaccination Management System
2.23.	Goal 3	Open AI Medical Diagnosis
2.24.	Goal 4	TechnoProbe: A career guide
2.25	Goal 4	Online creativity portfolio
2.26	Goal 11	TRELDER: Ease of Travelling for elders
2.27	Goal 12	Kisan Sevak:- Data Driven Agriculture for Optimal Yields and Product Procurement
2.28	Goal 2	Food Saver : Nourishing Communities reducing wastes
2.29	Goal 4	Quiz Orbit
2.30	Goal 4	Schedule management system



SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD



III. S.E. PROJECTS



2. Product Design and Development

2.31.	Goal 13	Constructive material assessment and evaluation for residence development
2.32.	Goal 8	FusionXperience
2.33.	Goal 9	NFC- A Digital Contact Card
2.34.	Goal 3	Brain Peace - Mental Health Awareness
2.35.	Goal 16	TheLegalHub - A digital domain for legal resources
2.36.	Goal 8	DestinationAnywhere
2.37.	Goal 4	LearnWit
2.38.	Goal 3	HemaLink:Connecting Lifesavers!
2.39.	Goal 8	AlumBridge-"Empowering Futures Together"
2.40.	Goal 8	BookMyPitch



SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD



III. S.E. PROJECTS



2. Product Design and Development

2.41.	Goal 11	Restaurant Booking Website
2.42.	Goal 4	E-Library
2.43.	Goal 8	Trip Advisor
2.44.	Goal 4	making learning an adventure through 3D visualization
2.45.	Goal 8	Hotel Management System



SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD





2. B.E. PROJECTS

I	B.E. Projects
1.	Artificial Intelligence,Deep Learning and Data Warehousing & Mining
1.1	Driver alert and assistance for unsafe road and weather conditions
Group No.:01	
Group Members: Japneet Rajput, Yashvi Dhar, Vishakha Kulkarni, Anurag Ghatge	
Mentor: Dr. Mrs. Nupur Giri	
<p>Abstract: As the popularity of two-wheelers continues to rise in India, so do the accidents and thus the concerns about road safety and information dissemination become paramount. This project presents a novel Smart Driving System (SDS) tailored for two-wheelers in the context of Indian road conditions, utilizing Artificial Intelligence (AI) and Thin-Film Transistor (TFT) screens. The proposed SDS leverages AI algorithms and real-time data processing to enhance rider safety, navigation, and communication. The core of the SDS is an AI-powered system that integrates with the vehicle's sensors, cameras, and navigation data. By analyzing this information, it provides real-time alerts to the rider, effectively preventing potential accidents and alerting about possible vehicle failures. The implementation of TFT screens on the two-wheeler dashboard serves as the interface for the SDS. These screens display essential information, such as navigation directions, speed, upcoming road conditions, health of internal vehicle components and nearby vehicles. The system's user-friendly design ensures that riders can access critical information without distraction, enhancing overall safety.</p>	
GitHub Repository: Link	
Awards & Laurels: Rs. 10 Lakh Grant Received From IIIT Hub,Hyderabad	
1.2	Smart Driving Assistant Using AI
Group No.:02	
Group Members: Tanmay Damle, Anish Nair, Digvijay Kocharekar, Harsh Deshmukh	
Mentor: Dr. Mrs. Nupur Giri	
<p>Abstract: The number of two-wheelers on Indian roads is increasing along with their popularity, which raises worries regarding road safety and information sharing. This research uses artificial intelligence (AI) and thin-film transistor (TFT) displays to provide a revolutionary Smart Driving System (SDS) designed for two-wheelers in the context of Indian traffic conditions. The suggested SDS improves rider safety,</p>	

navigation, and communication by utilizing AI algorithms and real-time data processing. The AI-powered technology at the heart of the SDS communicates with navigation data and the car's sensors. Through the analysis of this data, the rider receives real-time notifications that efficiently avoid accidents and warn of probable vehicle faults. The SDS interface is implemented through TFT screens on the two-wheeler dashboard. Important data is shown on these screens, including speed, navigation instructions, impending road conditions, and the condition of internal car parts. Because of the system's user-friendly design, motorcyclists may obtain vital information without being distracted, which improves overall safety.

GitHub Repository: [Link](#)

Awards & Laurels: Rs. 10 Lakh Grant Received From IIIT Hub, Hyderabad

1.3 | **Generative AI for Flowchart Creation**

Group No.:43

Group Members: Madhura Mhatre, Ananya Pandey, Harsh Rane

Mentor: Mrs. Sunita Sahu, Ms. Priyanka Shah

Abstract: Flowcharts have been widely used to visualize and communicate complex processes in a wide variety of domains such as education, technology, science, medicine, and manufacturing. In this paper we propose a methodology to automate the process of flowchart creation using generative AI, aiming to streamline the process and enhance the efficiency of flowchart creation. By using a large dataset of labeled flowchart-text pairs, the model learns to understand the semantics and relationships within the input text and converts them into a visually coherent and accurate flowchart representation. The methodology ensures the efficiency of the model by performing data preprocessing, model training, and performance evaluation. Automating the flowchart creation process will result in cost-effectiveness as well as consistency and accuracy. We aim to harness the power of Generative AI to automate flowchart creation, making it a valuable tool for professionals seeking an efficient and reliable means of visualizing complex processes.

GitHub Repository: [Link](#)

1.4 | **Plant Disease Detection**

Group No.:10

Group Members: Isha Desai, Jessica Lalchandani, Trishala Jeswani	
Mentor: Dr. Mrs. Sujata Khedkar	
<p>Abstract: Agriculture is one of the main contributing sectors in the Indian economy. There are various issues hampering the growth of agricultural production in India. Plant disease is one major problem among others. The system proposes to aid the farmers in combating and taking quick actions to prevent losses due to disease proliferation. Deep learning tools are employed to generate analysis for the same. The farmers can acquire a quick analysis of the plant's health by providing an image of the plant's leaf. The application provides facilities to interact in various regional languages in order to cater the needs of its vernacular audience. Natural language processing techniques are used to translate the queries of the farmers. A website and an android application are a part of the proposed solution in order to provide a user-friendly interface. Chatbot embedded in the application and the website will assist the farmers with their queries by providing multilingual support.</p>	
GitHub Repository: Link	
1.5	Generation of Company Specific Ads (ADGenAI)
Group No.: 12	
Group Members: Gauri Nagral, Kritika Yadav, Yahsraj Mulwani, Meera Sawantdesai	
Mentor: Dr. Mrs. Sharmila Sengupta	
<p>Abstract: This project explores the capabilities of Generative Artificial Intelligence (Generative AI) for visual element generation through advanced image generation techniques. It analyzes leading models like GANs - StyleGAN, StackGAN, Transformers, and Diffusion Models - DreamBooth, and LORA, identifying the most efficient among them. The project then focuses on implementing the selected model to automate advertisement creation for product-based companies, aiming to replace manual efforts in the creative department. It offers insights into the transformative potential of Generative AI in streamlining creative processes, fostering efficiency, and innovating the advertising industry.</p>	
GitHub Repository: Link	
Awards & Laurels: Industry Collaboration Project: Oneture Technologies Pvt. Ltd.,Mumbai	

1.6	HistoGrade: Histopathological Image based Oral Pre Cancer-Grading using Machine learning
Group No.:14	
Group Members: Anuj Bagad, Mansi Bellani, Aayush Talreja	
Mentor: Dr. Mrs. Sharmila Sengupta	
<p>Abstract: Oral cancer is fairly common, but can be fatal if not taken care of and treated properly at early stages. Oral cancer staging is the most important task in examining treatment and required medication for patients. In oral cancer, staging is of two types, namely, clinical and pathological. Oral pre-cancer is a condition with the potential to progress into malignancy, necessitating early detection and intervention to prevent the development of oral cancer. Histopathological analysis of tissue samples remains the gold standard for diagnosing and grading precancerous lesions. However, traditional grading methods are time-consuming, subject to inter-observer variability, and require the expertise of trained pathologists. In this study, we propose "HistoGrade," a novel machine learning-based approach for automated oral pre-cancer grading using histopathological images. The objective of HistoGrade is to provide a reliable and efficient tool to aid pathologists in accurately diagnosing and grading precancerous lesions.</p>	
GitHub Repository: Link	
<p>Awards & Laurels:</p> <ol style="list-style-type: none"> 1. First Runner Up at Pradarshini 24 2. Industry Collaboration Project: Department of Oral Pathology & Microbiology, Government Dental college and Hospital, Mumbai 	
1.7	AI for Insurance settlement
Group No.: 15	
Group Members: Neeta Narang , Sahil Dodeja, Gunjan Chhaproo, Rahul Fatnani	
Mentor: Dr. Prashant Kanade	
<p>Abstract: Health insurance claims processing is a critical aspect of healthcare administration, yet it often involves labor-intensive manual tasks prone to errors and delays. Leveraging artificial intelligence (AI) presents a promising solution to streamline and enhance this process. This abstract explores the application of AI in health insurance claim processing, highlighting its potential benefits and challenges.</p>	

AI technologies, including natural language processing (NLP), machine learning (ML), and computer vision, can automate various stages of claim processing, from data extraction and validation to decision-making and fraud detection. NLP algorithms can parse unstructured claim documents, extracting pertinent information such as patient demographics, diagnoses, procedures, and provider details with high accuracy. ML models trained on historical claim data can analyze patterns, predict claim outcomes, and prioritize claims for review based on risk factors.

By automating routine tasks and flagging potentially fraudulent claims, AI can significantly reduce processing times, improve efficiency, and lower administrative costs for insurance providers. Moreover, AI-driven analytics can offer insights into claim trends, utilization patterns, and provider performance, enabling better decision-making and resource allocation.

However, integrating AI into health insurance claim processing presents challenges related to data privacy, regulatory compliance, and algorithmic bias. Ensuring robust data security measures, adherence to regulatory standards such as HIPAA, and continuous monitoring of algorithmic fairness are essential to mitigate these risks.

GitHub Repository: [Link](#)

1.8	“SolarSense”: Predictive Analytics for Solar Energy, The Smart Solar System Approach
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Group No.: 22

Group Members: Anishkumar Iyer, Yash Brid, Yash Narkhede, Swapnil Thatte

Mentor: Dr. Dashrath Mane

Abstract: Solar-Sense is a comprehensive smart solar system that offers three distinct levels of services catering to both businesses and consumers. The first level, Rooftop Analysis, enables users to select a polygon on maps, providing a detailed analysis of the total cost of ownership and power generation potential for that area. The second level, Power Generation Forecasting, allows plant owners to input their parameters and receive accurate power forecasts, facilitating efficient energy management. The third level, Predictive Maintenance, employs image analysis to detect potential damage to solar panels, ensuring timely maintenance and optimizing system performance. With its multi-faceted approach, Solar-Sense streamlines the entire solar energy lifecycle, from initial evaluation and installation to continuous monitoring and maintenance, empowering both businesses and consumers to harness the full potential of renewable energy sources.

GitHub Repository: [Link](#)

1.9	Alzheimer's Detection Using Deep Learning
Group No.: 49	
Group Members: Mihir Bhatkar, Gaurav Ambartani, Khushi Bhatia, Aaditya Khetwani	
Mentor: Prof. Mrs. Purna Solanke	
<p>Abstract: Alzheimer's disease (AD), is a debilitating neurodegenerative disorder, requiring early detection to enable timely intervention. However, misdiagnosis due to confusing symptoms with normal aging can delay necessary treatments. To address this, our project proposes an Alzheimer's detection system using deep learning. The classification of Alzheimer's disease using deep learning methods has shown promising results, and successful application in clinical settings requires a combination of high accuracy, short processing time, and generalizability to various populations. In this study, we will develop a system for Alzheimer's disease detection using Convolutional Neural Network (CNN) architecture. The dataset contains magnetic resonance imaging (MRI) scan images from the ADNI dataset. The models in this study will be trained on the same dataset in order to analyze their performances. The system's performance will be evaluated against standard metrics, aiming to provide an efficient tool for early Alzheimer's detection, facilitating improved patient outcomes.</p>	
GitHub Repository: Link	
1.10	"Echo": Voice Cloning and Synthesis
Group No.: 31	
Group Members: Pushkaraj Baradkar, Prem Chawla, Om Gole, Atharva More	
Mentor: Mrs. Lifna C.S.	
<p>Abstract: Voice cloning, a subfield of speech synthesis, involves creating a system that can replicate a specific speaker's unique vocal characteristics. The goal of this project is to create a Voice Cloning System that uses deep learning techniques to generate high-quality synthetic speech that closely resembles the voice of a target speaker. The system makes use of advances in deep learning, such as speech synthesis models and vocoders, to create a user-friendly interface in which users can input text and receive a synthesized voice output that mimics the vocal qualities of the desired speaker. The project's primary goals are to (1) accurately clone the target speaker's voice, and (2)</p>	

provide an interactive user interface for generating synthetic speech. The potential applications of this Voice Cloning System are numerous, including personalized voice assistants, audiobook narration, and voiceovers for media content.

GitHub Repository: [Link](#)

1.11 | AI-Enabled Crop Monitoring and Assessment using remote sensing

Group No.: 28

Group Members: Ayush Jain, Yash Kaka Aditya Nehete, Swapnil Sakpal

Mentor: Mrs. Priya R.L

Abstract: In the ever-evolving landscape of agriculture, the need for data-driven, farmer-centric solutions has never been greater. Our project introduces a comprehensive Crop Planning and Market Information System that leverages advanced technologies to revolutionize farming practices. Through real-time video processing, remote sensing, and AI, our system aids in disease detection and offers tailored remedies. It utilizes weather data and soil analysis to recommend the most suitable crops, aligning with market trends. Moreover, our system ensures farmers remain well-informed about market conditions through real-time market updates and opportunities to launch agricultural stocks. It employs blockchain technology for transparent and efficient supply chain management, enabling product tracking at every stage. To enhance accessibility, our user-friendly dashboard supports multiple languages and provides access to agricultural training and educational programs. Ultimately, our project aims to empower farmers, improve crop yields, and drive sustainable agricultural practices in an ever-changing world.

GitHub Repository: [Link](#)

1.12 | Detection of Missing (Car) Substance

Group No.: 29

Group Members: Tanay Phatak, Gautam Wadhwani, Tanmay Thakare, Sakshi Bhojwani

Mentor: Mrs Priya R.L and Dr Sharmila Sengupta

Abstract: Vehicle theft is a rising crime across the globe. The fact that GPS trackers are not a standard fit in all vehicles and lack internet connectivity makes tracking down stolen vehicles a challenge for officials. GPS signals can be affected by different

environmental factors such as mountains, or dense foliage, which can cause inaccuracies in location tracking. To overcome these issues, the proposed solution utilizes the CCTV network to track the path taken by a stolen vehicle and accelerate the search process. The proposed idea introduces an effective solution for identifying and tracking stolen vehicles using CCTV footage, employing modern computer vision and deep learning techniques. Scrutinizing the CCTV footage from different sources can speed up the response and enhance recovery efforts while maintaining data privacy. This paper suggests a tracking solution using the existing CCTV infrastructure that can be implemented in various scenarios with minimal effort. Utilizing modern image processing technologies like YOLO and DeepSort, and techniques like object reidentification, the proposed solution produces a route map of the stolen car.

GitHub Repository: [Link](#)

Awards & Laurels: Industry Collaboration Project: TIFR

1.13 | Aatmanirbhar Sanchar - Chat Application

Group No.: 48

Group Members: Hitakrit Goplani, Shruti Dalvi, Swara Nabar, Krish Mehta

Mentor: Mr. Richard Joseph, Mrs. Yugchhaya Galphat

Abstract: Amid growing concerns regarding digital privacy and security, the development of a chat room application takes on heightened importance. This innovative project introduces a decentralized and highly secure communication platform, seamlessly integrating blockchain technology to effectively tackle challenges related to authentication, end to end encryption, and data storage. Users gain the ability to establish chat rooms and engage in secure conversations, facilitated by Hyperledger fabric that oversees user authentication, chat room particulars, and message preservation. The bedrock of this system centers around the issuance of authentication, ensuring robust user verification prior to access. Notably, the entire user journey – spanning authentication to messaging – is meticulously recorded on an immutable blockchain ledger, amplifying transparency and circumventing the need for central intermediaries. The proposed solution masterfully capitalizes on blockchain's advantages, forging a realm of trustless, private, and impregnable communication. In this digital era, this innovation stands as a beacon, heralding a new era of secure and confidential digital interactions.

GitHub Repository: [Link](#)

1.14	AI Enabled Grievance Monitoring and Response System
Group No.: 20	
Group Members: Sudhanshu Sabale, Nausheen Khan, Pratik Sawlani, Saif Syed	
Mentor: Prof. Geocey Shejy	
<p>Abstract: In contemporary organizational landscapes, the efficient management of grievances is crucial for maintaining stakeholder satisfaction and organizational integrity. Leveraging artificial intelligence (AI) has emerged as a promising approach to enhance grievance handling processes. This abstract outlines the core principles and functionalities of an AI-enabled grievance monitoring and response system. The proposed system integrates advanced AI techniques such as machine learning, natural language processing, and sentiment analysis to automate grievance processing and improve response efficiency. By analyzing textual and contextual cues, the system can categorize grievances, prioritize responses, and identify emerging trends for proactive intervention. Key benefits of the AI-enabled system include accelerated response times, enhanced accuracy in understanding grievances, and scalability to handle large volumes of complaints across diverse channels. Moreover, it facilitates data-driven decision-making by providing actionable insights derived from grievance data analysis. Ethical considerations are paramount in the design and deployment of such systems, ensuring fairness, transparency, and privacy protection for all stakeholders involved. Additionally, the system's effectiveness hinges on continuous monitoring, evaluation, and refinement to adapt to evolving user needs and regulatory requirements. An AI-enabled grievance monitoring and response system represents a significant advancement in organizational grievance management, offering improved responsiveness, efficiency, and stakeholder satisfaction. Its successful implementation requires careful consideration of technical capabilities, ethical principles, and ongoing optimization efforts.</p>	
GitHub Repository: Link	
2	Big Data Analysis and Machine Learning
2.1	From Images to insights: MRI-based stroke prediction
Group No.: 07	
Group Members: Manasi Shah, Kaushik Sahasranaman, Chaitanya Sondur, Riya Nadagire	
Mentor: Dr. Mrs. Gresha Bhatia	

Abstract: Stroke is a prominent global health issue, ranking as the leading cause of disability and the second leading cause of death. Stroke is a major cause of disability and death worldwide, with significant social and economic implications. It is a debilitating and potentially fatal disorder caused by a reduction or cessation of blood circulation to the brain, which damages or kills brain cells. The rising number of stroke survivors needs enhanced neurorehabilitation procedures. In response to the growing number of stroke survivors and the critical need for effective therapies, a Clinical Decision Support System (CDSS) mobile app is being created to transform stroke care. The software combines innovative technology with medical experience to expedite decision-making workflows for healthcare workers, addressing the critical requirement for quick and accurate interventions in stroke management. Focusing on stroke severity assessment, evidence-based protocol implementation, and personalized patient care, the app provides real-time access to critical information and diagnostic support. Additionally, it encompasses features such as risk assessment, medication management, telestroke consultations, and personalized rehabilitation planning. The CDSS app not only serves as a reliable companion for clinicians but also fosters interdisciplinary collaboration, facilitates telehealth consultations, and encourages continuous learning through data analytics. By offering real-time access to critical information and diagnostic support, along with features like risk assessment, medication management, telestroke consultations, and personalized rehabilitation planning, the CDSS app aims to bridge gaps in stroke care delivery, enhance patient outcomes, and advance healthcare practices.

GitHub Repository: [Link](#)

2.2	PradushanCheck - Comprehensive Urban Air Quality Monitoring and Forecasting
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Group No.:08

Group Members: Ashutosh Mishra, Nikhil Haswani, Muskan Chhabria, Vanshika Thakur

Mentor: Dr. Mrs. Gresha Bhatia

Abstract: Increasing urbanization and industrialization have led to a pressing concern for urban air quality and its impact on public health. To address this challenge, we propose a comprehensive solution leveraging advanced technologies. This project aims to establish a real-time air quality monitoring and forecasting system for urban areas by harnessing the power of machine learning and applying cutting-edge machine learning algorithms. By continuously collecting and analyzing air quality data, the system will provide up-to-the-minute updates on pollution levels, enabling residents and authorities to make informed decisions. Furthermore, the integration of

predictive modeling will allow the system to forecast potential pollution events, enhancing proactive measures and public awareness. The proposed approach aspires to contribute to healthier and more sustainable urban environments, fostering a better quality of life for all.

GitHub Repository: [Link](#)

2.3	CaseSense Analytics
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Group No.:09

Group Members: Rahul Motwani, Nimish Chidrawar, Malhar Kajale, Mohit Shahdadpuri

Mentor: Dr. Mrs. Sujata Khedkar

Abstract: The project aims to solve the critical need for accessible legal resources and services in India by leveraging state of the art Natural Language Processing and Generative Pre-trained Transformers. A legal document completion interface is built for the user to upload their document templates and to generate simple to understand questions for document filing assistance. Furthermore, two chatbot interfaces are designed for solving user queries about the document and to explore new clauses and loopholes based on the uploaded document. In order to assure the users about the generated content, explainability is implemented in the form of similarity scores and by providing references to the documents from which the answer is derived by utilizing Retrieval Augmented Generation LLM pipelines. Various LLM models such as Mistral-7B, Mixtral-8x7B and GPT 3.5 have been explored to identify experts for the required tasks. The project helps to save time, resources and reduce errors in contract drafting processes.

GitHub Repository: [Link](#)

2.4	BitPredict: Predictive Analytics for Bitcoin
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Group No.: 11

Group Members: Tithi Jhamnani, Teesha Karotra, Dimple Madhwani, Aditi Salvi

Mentor: Dr. Mrs. Sujata Khedkar

Abstract: The global financial scene has witnessed a surge in cryptocurrency popularity, notably Bitcoin, with a market cap hitting \$1.18 trillion in July 2023. This growth underscores both potential and volatility in this emerging asset class,

prompting exploration of novel approaches. Integrating Machine Learning (ML) and Artificial Intelligence (AI) with Bitcoin trading has garnered attention. This study investigates leveraging ML-assisted trading to exploit market inefficiencies for abnormal gains. With over 22,904 cryptocurrencies, 8823 active, and a \$1.08 trillion market valuation, the crypto market showcases remarkable growth. The research involves Bitcoin price prediction using historical market data and employs various ML and deep learning algorithms, including ARIMA, LSTM, Random Forest, and Gradient Boosting, enhanced through ensemble techniques and hyperparameter tuning for accuracy. We conducted experiments using LSTM, RNN, and GRU models for price prediction. Our results show that the models achieved varying levels of Mean Squared Error (MSE), Root Mean Squared Error (RMSE), and Mean Absolute Error (MAE). The highest accuracy was achieved by the RNN model for predicting the low value (MSE- 0.006), while the lowest accuracy was observed with the GRU model for predicting the high value (RMSE- 0.13884). Overall, our findings suggest that the LSTM model performed consistently well across different metrics.

GitHub Repository: [Link](#)

2.5	CMS physics with background noise using GNN
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Group No.: 13

Group Members: Aayush Shribatho, Sahil Salunkhe, Abhayvir Singh, Hitesh Ramrakhani

Mentor: Dr. Sharmila Sengupta and Mrs. Sunita Sahu

Abstract: In the CMS experiment at CERN, Geneva, a large number of HGICAL sensor modules are fabricated in advanced laboratories around the world. There are about 25000 modules to be fabricated and each sensor module contains about 700 checkpoints for visual inspection thus making it almost impossible to carry out such inspection manually. As artificial intelligence is more and more widely used in manufacturing, traditional detection technologies are gradually being intelligent. In order to more accurately evaluate the checkpoints, we propose to use deep learning-based regression techniques to analyze electron energy of High Granularity Calorimeter (HGICAL) used in the CMS experiment.

The CMS detector is built around a huge solenoid magnet. This takes the form of a cylindrical coil of superconducting cable. Our aim is to analyze the electron energy that will be generated after the head-on collision of the various particles in the CMS detector by using various Regression and ML methods.

GitHub Repository: [Link](#)

2.6	MadhuVista : Your Diabetes Ally
Group No.: 45	
Group Members: Sanjana Asrani, Karina Karira, Simran Lahrani, Roshni Wadhvani	
Mentor: Mrs. Pallavi Saindane	
<p>Abstract: Diabetes Mellitus presents a formidable global health challenge, with India witnessing a concerning surge in its prevalence. According to the International Diabetes Federation, an estimated 77 million individuals in India grapple with this chronic metabolic disorder, a figure that continues to escalate. In response, Madhuvista: Your Diabetes Ally emerges as a groundbreaking solution, leveraging cutting-edge technology to revolutionize diabetes management. At its core, Madhuvista introduces an advanced IR sensor meticulously designed to map glucose and voltage levels in real-time and helps monitor the blood glucose levels continuously without having to use the finger-prick method, thus a non-invasive solution.</p>	
GitHub Repository: Link	
2.7	Plant Disease And Pest Detection
Group No.: 46	
Group Members: Vansh Takrani , Komal Chhutlani , Nishchay Rajpal , Gayatri Talreja	
Mentor: Mrs. Pallavi Saindane	
<p>Abstract: Plant diseases and pests are significant factors that influence both the yield and quality of plants, presenting challenges to modern agriculture and global food security. In response to these challenges, integrated technologies have been developed for the timely detection of plant diseases, accurate identification of pests, and recommendation of suitable pesticides. Our Project focuses on advancements in these areas, particularly in three crucial crops: tomato, potato, and pepper. Recognizing the importance of combating diseases and pests, the agricultural sector emphasizes the need for prompt and precise identification to minimize productivity and quantity losses in agricultural produce. In this project, various methodologies, including image processing and machine learning techniques, are utilized for plant disease detection and pest identification. The goal is to differentiate between healthy plants and those affected by diseases by analyzing their morphology through image-based</p>	

classification. Similarly, the project also addresses the challenge of pest identification, employing similar techniques to differentiate pests from plants. Furthermore, the project incorporates a recommendation system for pesticides based on the identified diseases and pests. By leveraging machine learning algorithms, suitable pesticides are recommended to control the spread of diseases and manage pest infestations effectively.

GitHub Repository: [Link](#)

2.8 Voice-based Parkinson's Disease Prediction using Machine Learning

Group No.: 17

Group Members: Muskan Bahrani, Meet Chhabria, Kaustubh Kharche, Sakshi Shinde

Mentor: Dr. Prashant Kanade

Abstract: Parkinson's disease (PD) is a complex neurological disorder that progressively affects an individual's motor functions and, to a varying extent, their cognitive abilities. As a result, individuals with PD experience a range of symptoms such as tremors, bradykinesia (slowness of movement), rigidity, and postural instability. Additionally, non-motor symptoms including cognitive impairment, mood disorders, and autonomic dysfunction further contribute to the multifaceted nature of PD. All these symptoms start showing at the very later stage of the disease.

Hence there is no early detection and the disease becomes more serious.

Recognizing the significance of early intervention in improving the quality of life for individuals with PD, our project aims to develop an advanced prediction model for the timely detection of Parkinson's disease. The utilization of machine learning algorithms and data analysis techniques on a comprehensive dataset is crucial for achieving a precise and reliable predictive model. This dataset may include a variety of voice-based information enabling a holistic understanding of the disease.

The predictive model seeks to identify patterns and correlations within the data that are indicative of early-stage Parkinson's disease, allowing for intervention before the onset of severe symptoms. Early detection holds the potential to facilitate timely and personalized treatment strategies, potentially slowing the progression of the disease and enhancing overall patient outcomes.

GitHub Repository: [Link](#)

2.9 Cognitive Assessment using EEG Data: Developing a Brain-Computer Interface for Cognitive Function Evaluation

Group No.: 25	
Group Members: Siddhant Kodolkar, Sachin Choudhary, Harsh Karira, Sahil Madhyan	
Mentor: Indu Dokare	
<p>Abstract: Electroencephalography (EEG) is a non-invasive technology for real-time brain activity monitoring that provides insights into cognitive functions such as attention, memory, and problem solving. This study describes a complete methodology for creating a brain-computer interface to assess cognitive function using EEG data. The methodology consists of data preprocessing, feature extraction, optimisation, machine learning model creation, testing, and validation. The study suggests new attention indices based on the power spectral density ratios of theta, alpha, and beta frequency bands, and it assesses the effectiveness of four machine learning methods in predicting attention spans using EEG data.</p>	
GitHub Repository: Link	
2.10	Deep Learning Solutions for Autism Spectrum Disorder Characterization
Group No.: 50	
Group Members: Sunny Bhatia, Athurva Sawant, Divesh Chhoda, Varun Chawla	
Mentor: Veena Trivedi	
<p>Abstract: Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition marked by diverse social, communication, and behavioral challenges. This review explores recent strides in applying machine learning and deep learning to autism research. It delves into leveraging various data sources like behavioral observations, neuroimaging, genetic information, and electronic health records to build models for early diagnosis, personalized treatment, and unraveling autism's underlying mechanisms. The paper also addresses the challenges inherent in these approaches, such as data heterogeneity, limited sample sizes, and interpretability issues. By synthesizing current research, this paper underscores the potential of machine learning and deep learning in advancing our understanding of autism and improving targeted interventions for individuals on the spectrum.</p>	
GitHub Repository: Link	
2.11	Liver Cirrhosis Prediction System

Group No.: 18

Group Members: Vidhi Chijwani, Ritesh Tahilramani, Navin Idnani, Nikkita Narwani

Mentor: Rohini Temkar

Abstract: Liver cirrhosis presents a pressing healthcare challenge, characterized by progressive tissue scarring and functional decline, leading to increased healthcare costs and diminished quality of life for patients. To address these complexities and improve patient outcomes, we propose the development of a Liver Cirrhosis Detection System, integrating advanced machine learning techniques and comprehensive patient data analysis. Our initiative aims to enable early identification and intervention, ultimately enhancing healthcare efficiency and public health. The algorithmic framework utilized in our system includes Random Forest, Logistic Regression, Decision Tree, and XGBoost, harnessing their collective predictive power to enhance accuracy and reliability in liver cirrhosis diagnosis. Additionally, recent studies have made significant strides in liver cirrhosis prediction, but challenges such as data availability, external validation, and ethical considerations persist, highlighting the ongoing efforts of researchers and healthcare professionals to refine predictive models and address existing gaps in liver disease diagnosis and management.

GitHub Repository: [Link](#)

2.12	Human Activity Recognition For Pedestrian Safety
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Group No.: 24

Group Members: Siya Doshi, Varun Salvi, Sahil Talreja, Roshni Jaisinghani

Mentor: Mrs. Vidya Zope

Abstract: Enhancing pedestrian safety remains a significant concern in contemporary urban environments. This project aims to utilize Human Activity Recognition (HAR) techniques to address pedestrian safety issues. HAR involves identifying and categorizing human activities using video analysis and Machine Learning algorithms. This technology holds promise in improving pedestrian safety through real-time monitoring and response to various pedestrian behaviors. The primary objectives of this initiative are to prioritize the safety of vulnerable groups such as the elderly and children and to develop a user-friendly interface catering to various stakeholders, including pedestrians, motorists, traffic management authorities, and emergency services. The accurate identification and classification of human activities are crucial for implementing proactive safety measures and timely interventions to mitigate

potential pedestrian risks. Urban areas face a rising number of pedestrian accidents and injuries attributed to factors such as distracted driving, aggressive behavior, and non-compliance with traffic regulations. The fundamental aim of HAR for pedestrian safety is to empower intelligent systems to interpret pedestrian intentions and behaviors in proximity to roadways.

GitHub Repository: [Link](#)

2.13 | Predictive Analysis of Carbon footprint for Forest Cover in India

Group No.: 30

Group Members: Nikkita Gurnani, Utsav Gavli, Sonal Belani, Namrata Avhad

Mentor: Mrs. Lifna CS

Abstract: In most of the developing countries, the increasing rate of Carbon emissions is considered as a major cause of concern. India is leading in terms of CO₂ emissions as compared to other countries. The vegetation cover comprises only 24.39% of the geographic area of India. Metropolitan cities in India are witnessing rapid urbanization. The primary objective of this proposal is to identify the relationship between the increase in carbon emissions and deforestation in metropolitan cities. An additional objective is to predict the amount of afforestation required for each area to cope up with the carbon emissions over the next 25-years. It can be achieved by using statistical models like ARIMA, SARIMA. The proposal provides suggestions on optimal places and techniques for sustainable afforestation to the concerned authorities using artificial intelligence. It also focuses on substitute ways for decreasing the carbon emission and preventing the GHGs by using renewable energies such as solar power.

GitHub Repository: [Link](#)

2.14 | Heart diseases prediction system

Group No.: 38

Group Members: Sahil Nagdev, Jatin Ochani, Deepali Duseja, Harsh Bakhtar

Mentor: Prof. Sunita Suralkar

Abstract: Heart disease is a leading global cause of death, and treating it involves advanced technologies. However, a common issue in medical centers is the variability

in medical professionals' knowledge and expertise, leading to suboptimal decisions and poor outcomes. To address this, machine learning algorithms have been employed to predict heart disease, aiding in automated diagnosis within hospitals. Prediction of heart disease relies on analyzing various health parameters, such as Age, Gender, smoke, glucose, Blood Pressure (BP), (low and high). In our research, we utilized a built-in dataset and implemented five different algorithms: Naïve Bayes, k-Nearest Neighbor (KNN), Decision Tree, Support Vector Machine and Random Forest.

Our study aimed to identify the most accurate technique for predicting heart disease based on these health parameters. Our experiments revealed that Support Vector Machine achieved the highest accuracy, with an impressive rate of 88%.

GitHub Repository: [Link](#)

2.15	TasteFeels: The Next Frontier of Dining Enhancement with Facial Recognition
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Group No.:33

Group Members: Vinit Patil, Chirag Panjwani, Sahil Ramchandani, Tanishq Harchandani

Mentor: Mrs. Abha Tewari

Abstract:

The interface between technology and cooking always holds promise to enhance dining experiences, and the emergence of facial recognition technology has opened a new frontier in this regard. This paper explores the concept of "TasteFeels", a new approach to food enhancement ML- Using its real-time and facial analytics, TasteFeels enables restaurants to create personalized menus, flavors and presentations based on diners' sensory and physiological responses, ultimately elevating the overall dining experience. In this paper we explore aspects of TasteFeels technology in more detail, including the use of facial recognition techniques and their integration into cooking practices.

By tackling these challenges head-on, the proposed TasteFeels system aims to provide a more accurate and user-friendly dining enhancement experience through facial recognition technology, benefiting both restaurant-goers and culinary professionals as they explore the next frontier of dining innovation.

GitHub Repository: [Link](#)

2.16	Audio Emotion Recognition using Digital Stethoscope and Deep Learning Techniques
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Group No.: 35

Group Members: Vivek Balani, Ritika Hotwani, Yash Pahlani, Prabha Pamula

Mentor: Prof. Mannat Doultani

Abstract: Emotion Recognition (ER) can be defined as the extraction of the emotional state of the speaker. Emotion detection (via audio) is a challenging task because emotions are subjective. There is no common consensus on how to measure or categorize them. Most acoustic features that have been used for emotion recognition can be divided into two categories: prosodic and spectral. When a speaker expresses an emotion while adhering to an inconspicuous intonation pattern, human listeners can nevertheless perceive the emotional information through the pitch and intensity of speech.

It is well known that physiological signals are affected by the human endocrine system and the autonomic nervous system. These systems are less affected by human subjective consciousness and can reflect the real emotional state more objectively and accurately. It proved that physiological signals had unique responses to different emotions. The heart rate increased significantly when people were angry or scared. The effects of relaxation and fear on heart rate were significantly different, and the average heart rate during happiness was lower than that while in a sad state. From this perspective, emotion recognition based on physiological signals makes the results more objective.

We aim to capture the diverse acoustic cues that are in the speech signal and analyze their mutual relationship to the speaker's emotion also considering the physiological factor (Heart rate). We propose a technique to recognize several basic emotions, namely sadness (SAD), anger (ANG), surprise (SUR), happiness (HAP), and neutral (NEU), based on the analysis of phonetic and acoustic properties.

GitHub Repository: [Link](#)

Awards & Laurels:

- 1. Patent Published**
- 2. ICUS 2024 Paper presentation**
- 3. Won Consolation Prize at Pradarshini 24**

2.17 | Twitter user analysis

Group No.: 42

Group Members: Harsha Chelani, Khusboo Kimtani, Tammana Bhatija, Shreya Kukreja, Piyush Waghmare

Mentor: Mrs. Sujata Khandaskar

Abstract: An adaptable tool designed to help organizations research and learn more about Twitter profiles of relevant people or entities is the Twitter Profile Analyzer. The system uses information gathered by scraping twitter data , such as tweets, mentions, and hashtags, to perform extensive analyses including mention extraction, subject analysis, hashtag identification, and mention-based community recognition. Organizations can learn a great deal from these analytics about the interactions, interests, and influence of the profile owner on Twitter. The reports that are generated enable organizations to make well-informed decisions about marketing strategies, partnerships, and engagement tactics that are customized to the features and audience dynamics of the profile.

GitHub Repository: [Link](#)

2.18 | Gauging Green Energy Feasibility and Output using ML

Group No.: 26

Group Members: Priotosh Mondal, Aditi Bhatia, Roshini Panjwani, Shrey Panchamia

Mentor: Mrs Indu Dokare

Abstract: India's rapid urbanization demands innovative solutions to address energy consumption patterns while reducing reliance on fossil fuels. This research paper explores the application of predictive modeling techniques like Multilayer Perceptron and Linear Regression to forecast solar energy generation and Long Short-Term Memory (LSTM) models to forecast wind energy generation, thereby facilitating efficient energy planning in major Indian cities. The proposed system aims to create a web-based platform that integrates these predictive models to display real-time temperature conditions and the corresponding amount of energy that solar and wind sources can provide in specific locations, thus promoting smart cities and smart homes. By utilizing the website, energy planners will be able to compare the generated energy from wind and solar sources, enabling informed decisions on which resource best meets the energy requirements of housing settlements.

GitHub Repository: [Link](#)

3. | **Internet of Things & Robotics**

3.1 | **Vehicle Ecosystem Using Blockchain and IoT**

Group No.: 47

Group Members: Sakshi Sanjaykumar Patil,Shalini Sanjay Mirani,Sanjana Rajesh Bhojwani,Paraskumar Navin Panchal

Mentor: Mr. Richard Joseph

Abstract: Indian Regional Transport Office (RTO) is a government agency responsible for managing various aspects of motor vehicle registration, driver licensing, and regulation of road transport within a specific region or jurisdiction. RTOs play a crucial role in ensuring the safe and efficient operation of road transport systems, maintaining traffic regulations, and collecting revenue for the government through vehicle registration and licensing fees. The current RTO system has been facing some issues such as inconsistency and integration, even though efforts have been made to address these problems like implementing technology upgrades, streamlining processes. Despite these , the system still faces problems like long waiting times for services and irregular results. The proposed model which is built using IoT and blockchain technology intends to track and record information about vehicles for traffic monitoring and ticket creation. The process consists of the following steps: (1) collecting data from various sensors on vehicles and signal cameras for traffic violations such as speeding or running red lights, (2) creating a blockchain for vehicle information and traffic rule violations, (3) using sensor data and camera footage to issue tickets with video proof for users to verify or contest, (4) queries on issued tickets by the accused are managed in a separate Complaint tracking Blockchain and ticket's status is updated.

GitHub Repository: [Link](#)

4. Image Processing

4.1 Multi-Sensor Fusion for Enhanced Object Detection In Complex Environments

Group No.:41

Group Members: Kaustubha Sahu, Aaryan Manawat, Abhiman Singh, Pranav Ubarhande

Mentor: Mr. Sanjay Mirchandani

Abstract: A driver assistance system is implemented on Raspberry Pi which processes real-time data from the LiDAR for distance measurement and camera for object detection, enabling smart surround-view and collision avoidance to enhance road safety. The object detection system is based on MobileNetSSD v2 and achieves a mean

average precision (mAP) of 22.1%. The distance calculation is performed using TF-LUNA Micro LiDAR, which operates within a range of 8 meters and has an error margin of $\pm 6\text{cm}$ for distances less than 3 meters, and an error margin of $\pm 2\%$ for distances between 3 meters and 8 meters. Thus, the system is designed to handle the unique challenges of Indian roads, prevent accidents, and ultimately save lives.

GitHub Repository: [Link](#)

4.2 | Sign Detection and Dictation

Group No.: 51

Group Members: Kesar Jotwani, Kapil Bhavnani, Lavesh Lulla, Sakshi Shahdadpuri

Mentor: Prof. Manisha Mathur

Abstract: In a world where verbal communication reigns supreme, deaf individuals often face significant challenges in connecting with others and fully engaging in various aspects of life. To tackle this issue head-on, we've developed the "Sign Detection and Dictation" website. This cutting-edge platform harnesses advanced technologies such as machine learning, computer vision, and user-centered design, all meticulously crafted to meet the unique needs of the deaf community.

The Sign Detection and Dictation App is a game-changer, offering real-time sign language detection and interpretation. This breakthrough in communication technology is set to revolutionize the way deaf individuals interact with the world around them. By providing such a versatile tool, our project aims to empower members of the deaf community, facilitating seamless interaction and fostering inclusivity and mutual understanding in our increasingly connected society. This initiative marks a significant stride toward dismantling barriers and building a more inclusive and accessible world for all.

GitHub Repository: [Link](#)

4.3 | DetectWave - Scenario recognition from image

Group No.: 34

Group Members: Harsh Loya, Gautam Dinga, Viraj Joshi, Harsh Patil

Mentor: Prof. Mannat Doultani

Abstract: Our system utilizes the Faster R-CNN model to automatically detect and recognize objects and scenes in uploaded images. With a focus on precision, it efficiently identifies a variety of objects, including those in garden settings, while also recognizing scenes such as parks. This dual capability provides valuable context to users, facilitating not only object comprehension but also a broader understanding of the image. Results are presented in a clear format, making it accessible for applications such as content tagging, automated image analysis, and aiding individuals with visual impairments. This intuitive and versatile tool streamlines image understanding, catering to both personal and professional needs.

GitHub Repository: [Link](#)

Awards & Laurels: [ICUS 2024 Paper presentation](#)

4.4 | Wireless Extraction of display panel system

Group No.: 27

Group Members: Prathamesh Thakur, Shreyas Sawant, Hariharan Iyer, Tanisha Patil

Mentor: Mrs. Priya R.L

Abstract: The gathering, storing, and analysis of data have undergone a paradigm change with the introduction of the Internet of Things (IoT). The collecting of enormous volumes of data from several sources has been made possible by the exponential proliferation of networked devices and sensors. IoT and AI integration has emerged as a revolutionary force with the ability to revolutionize society and improve human existence in order to fully utilize this data-rich environment. However, there are several difficulties in using IoT data, especially in industrial and research contexts. Real-time and streaming data extraction from complicated contexts is notoriously challenging. Additionally, connecting to IT-based data collection networks and guaranteeing the security of these data streams can be challenging jobs that call for careful planning. This project's main goal is to overcome these issues by proposing a non-intrusive, wireless method for extracting display panel data. The project intends to provide seamless data collecting from display panels through the use of AI algorithms, enabling real-time monitoring and analysis of crucial data. The system's accessibility and scalability are further improved by the inclusion of IoT-capable devices.

The research uses the YOLO (You Only Look Once) algorithm, a neural network-based technique recognised for its amazing speed and precision, to produce effective and precise object recognition. YOLO has found use in a variety of fields, from word, character, and number detection to the recognition of people, traffic signs,

parking meters, and animals.character, and number detection. By carefully designing and implementing secure communication protocols, which guarantee that data integrity and confidentiality are preserved, the security issues surrounding data collection networks are solved.

GitHub Repository: [Link](#)

5. Networking, Security and Blockchain

5.1 Innovest

Group No.:03

Group Members: Om Borate, Divesh Mangtani, Sujal Pati, Tarun Shetty

Mentor: Dr. Mrs. Nupur Giri

Abstract: In this decentralized setup, a diverse community of investors from around the world collaboratively contributes resources and expertise, collectively steering the investment process. Smart contracts facilitate consensus-based decision-making, promoting fairness and efficiency. The elimination of intermediaries fosters a trustless environment, inspiring confidence and attracting a broader spectrum of investors. The decentralized DAO model offers entrepreneurs unprecedented access to a global network of backers with varied expertise and industry connections. Funding decisions are based on the merit and potential of projects, democratizing the investment landscape and promoting innovation from any corner of the world. Security and transparency are paramount in DAOs. Blockchain technology ensures immutable and auditable records of all transactions, minimizing fraud and enhancing trust among participants. Challenges such as regulatory compliance and smart contract vulnerabilities demand careful consideration, but the benefits of transparency and efficiency outweigh these obstacles. The decentralized DAO for venture capital presents a unique opportunity for established firms to evolve and embrace a more inclusive and collaborative approach. As the industry pioneers this paradigm shift, there is an opportunity to shape a resilient and adaptive ecosystem that nurtures groundbreaking ideas and drives positive change. In conclusion, the abstract sheds light on the transformative potential of decentralized DAOs for venture capital firms. As the world embraces this novel approach, the future of investment practices will be defined by transparency, decentralization, and a global community united in their pursuit of innovation and entrepreneurial success.

GitHub Repository: [Link](#)

5.2	DeCAT- Decentralized Certificate Authority
Group No.:04	
Group Members: Dhananjay Pai, Hrishikesh Patil, Yash Sahane, Varad Deshmukh	
Mentor: Dr. Mrs. Nupur Giri	
<p>Abstract: The prevailing challenges within the realm of issuing and authenticating certificates for achievements, skills, or commodities, involve issues of duplication, document tampering, malpractice and lack of trustworthiness. This research proposes a solution leveraging blockchain technology to improve the credibility and legitimacy of certificates. The system employs soul-bound tokens (SBTs) to accurately represent individuals' skills and qualifications, ensuring certificate authenticity. Credibility is reinforced by endorsements from verified certificate holders, which can be prominently displayed in a portfolio. The system facilitates verification through QR codes embedded in SBT certificates. The system has a Reputation Score mechanism, dynamically assessing individuals' proficiency based on various parameters, thereby providing a tangible metric for evaluating candidates' expertise. The system uses LLM for generating casual granular statistical insights of the certificates in the particular wallet address. This research underscores the system's potential to revolutionize credential validation in the market by offering a transparent, efficient, and trustworthy project.</p>	
GitHub Repository: Link	
Awards & Laurels: Top 12 (Filecoin Track) in ETHIndia 23'.	
5.3	SentinelHub-Blockchain-Powered Social Media Prototype
Group No.: 21	
Group Members: Jayesh Dayalani, Aryan Motwani, Anish Mangnani, Raghav Pratap Singh	
Mentor: Geocey Shejy	
<p>Abstract: Social Media Platforms facilitate global connectivity, personal expression, professional networking, and entertainment. Despite their benefits, existing social media platforms encounter challenges related to user data privacy, content authenticity, and controlled content sharing. Users' data privacy is compromised due to inadequate safeguards and data breaches. Additionally, users often lack control over content sharing and face issues of plagiarism and copyright infringement. To address these concerns, the need for a secure and trustworthy social media platform arises.</p>	

SentinelHub, a cutting-edge Blockchain-Powered Social Media Prototype that redefines online engagement. Integrating blockchain's immutability, decentralization, and encryption, SentinelHub empowers users with ownership of their data and secure content propagation. By timestamping content on the blockchain and ensuring cryptographic security, SentinelHub eliminates risks associated with unauthorized sharing and tampering. This platform bridges the gap in blockchain-based social media by focusing on secure content propagation, revolutionizing digital interaction with authenticity and privacy. It addresses the need for a holistic platform experience, where user-generated content is safeguarded, traceable, and authentically represented.

GitHub Repository: [Link](#)

6 High Performance & Cloud computing

6.1. AarogyaMitra : User-friendly health diagnosis app

Group No.: 39

Group Members: Sakshi Rane, Reshoo Nehru, Tarang Rajpal, Pratik Aswani

Mentor: Mrs. Sunita Suralkar

Abstract: Many researchers have recently used a variety of supervised learning techniques to create a range of automated diagnosis models. Early disease detection could reduce the number of people who die from these conditions. This research uses machine learning models to develop an effective automated disease diagnostic algorithm. We have chosen two serious illnesses, including melanoma and brain tumors, for this essay. "AarogyaMitra" involves entering the data into an Android app, utilizing a pre-trained machine learning model that was trained on the same dataset and deployed on SQLite for analysis in a real-time database, and ultimately displaying the illness detection results in the Android app. The prediction Computation is done using logistic regression. Determining the risk of tumor and skin disease can be aided by early detection. A comparative investigation shows that the suggested model can assist laymen and medical professionals in providing timely prescriptions for therapy.

GitHub Repository: [Link](#)

7.1 Remote Access Control to Sensitive areas using Crypto Card

Group No.: 05

Group Members: Figo Cardozo, Drishti Samvedi, Om Madat, Vansh Pahuja

Mentor: Dr. Mrs. Gresha Bhatia and Mrs. Abha Tiwari

Abstract: Traditional access control systems often suffer from security vulnerabilities and logistical challenges, especially when granting access to high-security zones. In this project, we design and implement a novel system that leverages the capabilities of a crypto card to enhance access control measures while ensuring data integrity and confidentiality. The proposed project aims to create a secure remote access control system for sensitive areas. It plans to achieve this goal by leveraging smart card technology and cryptographic techniques along with face and voice recognition. Smart cards act as secure tokens, holding unique credentials for authorized users. Cryptography, on the other hand, will ensure the confidentiality and integrity of data exchanged during the access process. By combining these two technologies, the project seeks to establish a robust and reliable system that allows only authorized individuals to remotely access sensitive areas. This will significantly enhance security measures, reducing the risk of unauthorized access and potential security breaches. The integration of smart cards and cryptography will provide a multi-layered defense mechanism, adding an extra level of protection against potential threats and unauthorized users. Overall, the implementation of this system will contribute to safeguarding valuable assets and sensitive information within the designated areas.

GitHub Repository: [Link](#)

Awards & Laurels: 3rd Prize in Pradarshini 24

7.2	Package Delivery: One Stop Solution for Delivery
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Group No.:06

Group Members: Aarya Lotke, Aayushi Salunkhe, Niranjan Yeole, Bhargav Mungekar

Mentor: Dr. Gresha Bhatia

Abstract: Traditional package shipping services often come with high costs, prompting the exploration of alternative methods to enhance affordability and efficiency. This study introduces a novel concept that harnesses the potential of traveler collaboration to facilitate cost-effective package delivery. When a sender intends to dispatch a package from location A to destination B, this approach enables them to identify a traveler heading to the same destination. Through a dedicated mobile application, the sender can seamlessly connect with the traveler and arrange for the package to be transported alongside the traveler's belongings. This mutually beneficial arrangement not only offers significant cost savings compared to

conventional shipping services but also provides an earning opportunity for the traveler.

GitHub Repository: [Link](#)

Awards & Laurels: 1st Prize in Pradarshini 24

7.3	Village Information system
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Group No.: 16

Group Members: Divya Makhija, Jasmine Dhirwani, Vanshika Makhijani, Mohit Gangwani

Mentor: Dr. Prashant Kanade

Abstract: The Village Information System is a comprehensive platform that empowers rural communities by offering communication channels (Complaints and Assistance), financial planning tools (Income Prediction, Poverty Prediction), and transaction methods (Online Payments, Barter System) to improve governance, predict socio-economic trends, and promote financial inclusion.

GitHub Repository: [Link](#)

7.4	Masa Daily: A Fisherman's guide
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Group No.: 23

Group Members: Denzil Nelson, Omkar Mahajan, Sanket Jaiswal, Divyang Patel

Mentor: Dr. Dashrath Mane

Abstract: The "Masa Daily" initiative employs Machine Learning and Computer Vision to enhance marine fishing practices. By empowering fishermen with advanced tools for optimised catch selection and navigation through real-time data and predictive analytics, the project seeks to revolutionise the fishing industry. Addressing challenges of manual monitoring and reporting in dynamic marine fisheries, the solution focuses on image recognition for species in an evolving database. "Masa Daily" embodies technology's role in promoting sustainable fishing practices.

GitHub Repository: [Link](#)

7.5	Drowsy Driver Detection System
Group No.: 19	
Group Members: Aditya Mundas ,Shubham Gupta, Suraj Patel, Suhail Shaikh	
Mentor: Dr. (Mrs.) Rohini Temkar	
<p>Abstract: The Driver Distraction & Drowsiness Alert System represents a crucial step forward in ensuring road safety by employing machine learning and deep learning methods to combat the peril of distracted drowsy driving. In the past researchers presented drowsy driver detection systems with existing machine learning algorithms. The proposed system focuses on developing a highly accurate detection model capable of identifying subtle signs of driver distraction and drowsiness. The proposed system offers a method for evaluating the level of driver fatigue based on changes in a driver's eyeball movement using various convolutional neural network (CNN) models. Driver distraction and facial sleepiness expressions were detected using various features such as eye position, mouth position, head positioning and angle. Beyond the theoretical framework, the system extends its impact through the creation of a practical application. The user-friendly application integrates the sophisticated detection algorithms into real-time driver monitoring, delivering timely alerts to prevent potential accidents caused by fatigue. The system also attempts to send alarming notifications to driver's relatives in case of an emergency. This paper provides a comprehensive overview of the research methodology, emphasizing the seamless fusion of advanced algorithms and practical application, ultimately contributing to the ongoing efforts aimed at making our roads safer for everyone.</p>	
GitHub Repository: Link	
7.6	TechShare Rental System Application
Group No.: 36	
Group Members: Ritika Bhat , Eshwar Vazirai ,Samarth Gawali ,Manav Valech	
Mentor: Pallavi Gangurde	
<p>Abstract: TechShare rental gadget application is to provide the services of gadgets on rent to those buyers who cannot afford to purchase the gadgets for themselves can rent such gadgets for personal use, so such users can rent the particular gadget for a specific amount of time they require. This application also provides the services to renters to add their gadgets for renting and such renters can also get insurance for their gadgets in case their gadget is damaged or lost or stolen. The app also provides user verification to protect against fraud. The TechShare Rental System is a</p>	

cutting-edge platform that facilitates the temporary acquisition of various tech resources, making state-of-the-art technology accessible to a broader audience. Whether you're a student in need of a powerful laptop for a semester, a startup looking to prototype with the latest hardware, or an individual eager to explore the world of augmented reality, TechShare offers a seamless solution.

The project successfully addressed the growing demand for gadget rentals by providing a convenient and cost-effective solution. By analyzing user engagement metrics, we observed that the app attracted a substantial user base and experienced consistent usage, indicating its relevance and value to the target audience. The conversion rate of the app was encouraging, showcasing that users found the rental process intuitive and straightforward.

GitHub Repository: [Link](#)

7.7	Electoral Insight 2024: Unveiling India's Future Political Landscape
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Group No.: 32

Group Members: Prerna Bajaj, Nishtha Batra, Soham Bhole, Deanna Fernandes

Mentor: Mrs. Abha Tiwari

Abstract: Social media platforms like Facebook play a pivotal role in facilitating mass communication, opinion expression, and information sharing, generating extensive unstructured data. Researchers are increasingly focusing on analyzing sentiments within this vast user-generated text. This study utilizes machine learning algorithms to explore the complexities of scrutinizing voter sentiments on social media, providing insights into evolving public opinion dynamics. It covers sentiment analysis (SA) methods, standard preprocessing techniques, diverse word embeddings, popular benchmark datasets, evaluation metrics, and publicly available resources for SA tasks. The implemented system is evaluated using Naïve Bayes, SVM, and a modified BERT approach. The survey also explores practical applications of SA tasks and concludes by identifying research challenges and suggesting future directions for investigation.

GitHub Repository: [Link](#)

7.8	Social Media Investigations against Cybercrime: SocialSentinel
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Group No.: 40

Group Members: Bhavesh Bhatia, Chaitanya Limaye, Chitra Atlani, Siyona Singh

Mentor: Mrs. Rupali Soni

Abstract: Technology has evolved significantly over the years. Communication has become more than easy with the advent of social media platforms. But due to ease of access to such platforms, malpractices have also been increasing. Cyberbullying has become a major issue on such online spaces. Social media investigations have become necessary to monitor cyberbullying on social media platforms, and these investigations, when integrated with traditional cybersecurity protocols, can increase efficiency and speed of detections. Using CNN-based approach, we have developed a tool which can detect cyberbullying in the 'text' entered by the user, wherein the text is obtained from social media posts. The tool is available through a website, and it also provides an option to lodge a complaint through this webpage, which can later be sent to investigators to take suitable action. User authentication is also included for security of our tool.

GitHub Repository: [Link](#)

7.9	AI-Enhanced Imaging for Early Detection of Brain Anomalies
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Group No.: 37

Group Members: Vedansh Udhawani, Chirag Dodeja, Romesh Lulla, Abhishek Chhabria

Mentor: Mrs. Nusrat Ansari

Abstract: The escalating incidence of fetal brain anomalies poses a significant challenge to child health and necessitates heightened attention from the medical community. Timely identification and intervention are crucial to improving prognosis and outcomes for affected infants, underscoring the importance of advanced diagnostic tools. This research addresses the growing need for early detection by leveraging AI-enhanced imaging techniques, specifically machine learning and deep learning. The integration of computer-aided diagnosis (CAD) into the diagnostic process emerges as a promising strategy for enhancing accuracy and efficiency in identifying abnormal fetal brain development.

Our study focuses on developing an innovative model that not only accelerates anomaly detection but also overcomes the limitations inherent in current methodologies. By harnessing the power of AI, we aim to provide healthcare providers and expectant parents with a reliable and cost-effective solution to mitigate the risks associated with fetal brain anomalies. This research contributes to the ongoing efforts in medical science to enhance prenatal care and improve outcomes for at-risk pregnancies.

GitHub Repository: Link	
7.10	Reunite: harnessing face detection and age progression for missing person identification
Group No.: 44	
Group Members: Chetaniya Bajaj, Kaplesh Mulchandani, Jayesh Repale, Gaurav Amarnani	
Mentor: Mrs. Yugchhaya Galphat	
<p>Abstract: The Reunite AI project aims to reunite missing individuals with their families using facial recognition and age progression technologies. Our system employs deep learning algorithms to analyze facial features and generate updated representations of individuals' appearances over time, ensuring robust performance across demographics. Utilizing Principal Component Analysis (PCA) and Linear Discriminant Analysis (LDA) for facial recognition and Generative Adversarial Networks (GANs) for age progression modeling, we prioritize innovation, efficacy, and ethical conduct. With a user-friendly interface, our platform allows users to upload images for automated analysis, leading to prompt notifications and collaborative efforts with authorities. Through advanced technology and ethical principles, Reunite strives to address the societal challenge of missing person identification efficiently and respectfully.</p>	
GitHub Repository: Link	
7.11	Revenue and Expense Analyzer
Group No.: 52	
Group Members: Yash Kewlani, Neeraj Chawla, Atharva Mahalle, Mithil Wasrani	
Mentor: Mrs. Priti Joshi	
<p>Abstract: The "Revenue and Expense Analyzer" project addresses the pressing need for effective financial performance monitoring and management in the dynamic business and finance landscape. The intricacies of financial data, often buried within complex spreadsheets and reports, pose a significant challenge for professionals. This project offers a comprehensive solution by introducing an innovative dashboard adorned with essential Key Performance Indicators (KPIs) and critical financial insights, designed to provide clarity and understanding regardless of the user's</p>	

technical background. The project leverages a diverse array of visualization tools, including area charts, line charts, bar charts, pie charts, and scatter plots, to transform complex financial data into easily comprehensible visuals, simplifying the decision-making process.

GitHub Repository: [Link](#)

7.12	NexGen Linkup: Placements with senior expertise
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Group No.: 53

Group Members: Diya Janyani, Ritika Vanjarani, Sahil Kishnani, Sagar Kishnani

Mentor: Mrs. Priti Joshi

Abstract: The "NexGen Linkup: Placements with senior expertise" project presents a novel and innovative platform designed to revolutionize the process of placements by fostering meaningful connections between junior students and their experienced senior counterparts. In a rapidly evolving job market, the project aims to address the challenges faced by aspiring individuals during their transition from academia to professional life. By leveraging technology to facilitate mentorship, knowledge sharing, and guidance, NexGen Linkup seeks to empower juniors with valuable insights, enhance their employability, and ultimately propel them towards successful career placements. This abstract provides an overview of the NexGen Linkup project, highlighting its key features, benefits, and potential to reshape the way students approach their career aspirations..

GitHub Repository: [Link](#)



3. T.E. PROJECTS

I	T.E. Projects
1.	AI, Deep Learning & DWM
1.1	Gesturely: Converting gestures to words
Group No. 02	
Group Members: Piyush Chugeja, Sakshi Kirmathe, Deven Bhagtani	
Mentor: Dr. (Mrs.) Nupur Giri	
<p>Abstract: Gesturely addresses the challenge of facilitating effective communication between the deaf and hearing communities in India by converting Indian Sign Language (ISL) into comprehensible sentences. To achieve this, we harness advanced computer vision and deep learning techniques. The primary objective is to create a system capable of recognizing ISL gestures and translating them into text. This endeavor is motivated by the goal of fostering greater accessibility and inclusivity for the deaf population in India. The core of our solution revolves around the development of a robust model. This model should be proficient in recognizing a diverse range of ISL signs, ensuring accuracy and comprehensiveness in the translation process. The ultimate aim is to provide a real-time ISL-to-sentence conversion tool that empowers the deaf community, making information and communication more accessible and equitable for all.</p>	
GitHub Repository: Link	
Awards & Laurels: 2nd Prize in Pradarshini 24	
1.2	Resilient Rivers: Empowering Flood-Free Futures
Group No.: 06	
Group Members: Aryan Raje, Ishita Marathe, Arya Raje, Prasad Lahane	
Mentor: Dr.Gresha Bhatia	
<p>Abstract: The proposed system seeks to utilize flood prediction models tailored for reservoirs to forecast potential overflow occurrences in advance. This capability enables timely issuance of warnings regarding gate openings and potential floods to downstream</p>	

communities via messaging or similar alert systems. By integrating advanced flood prediction algorithms with reservoir data, the system offers real-time updates on water levels, weather conditions, and hydrological factors. This ensures that communities situated along the reservoir's path receive accurate and timely alerts, empowering them to take necessary precautions and evacuate if needed. The primary goal of the system is to bolster disaster preparedness, mitigate flood risks, and safeguard the well-being of residents living near the reservoir.

GitHub Repository: [Link](#)

1.3	Corporate Earnings Call analysis
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Group No.:07

Group Members: Srushti Sambare, Tasmiya Khan, Purtee Mahajan, Ketaki Nalawade

Mentor: Dr. (Mrs.) Sujata Khedkar

Abstract:

Earnings calls are hosted by companies to discuss their financial conditions, providing stakeholders with insights into quarterly results, operational highlights, future guidance, and an opportunity for a Q&A session with analysts and investors. The information can be overwhelming for some investors. Calls lasting for a long duration can cause information overload. There occurs a high probability of disclosure bias. Also, even if the transcript is available, it is a time consuming task to study and analyze it. Using Fincalls - Earnings Calls Analyzer, we try to solve the above problems by generating the transcript, summarizing it, doing context summarization for each chosen word using word cloud and data visualization with the help of Assembly AI API, Facebook's BART (large-sized model) fine-tuned on CNN Daily Mail, keyword-based NLP.

Company public reports, such as annual reports, quarterly reports, and other regulatory filings, provide information regarding a company's financial health, performance, and strategic initiatives. Users can either upload the report from the device or just search and upload from the website itself, multiple financial reports and chat with them. The chatbot is efficient, to not only answer the straight-forward extractive questions, but various reasoning questions too. This is done using Google's PaLM2 LLM and Custom search API.

Thus, using the Fincalls - Earnings Calls Analyzer and the Public reports chatbot,

businesses can make impactful decisions, engage stakeholders with transparency, and gain a competitive advantage in responding swiftly to market dynamics leading to an unstoppable growth!

GitHub Repository: [Link](#)

Awards & Laurels: 1st Prize in Pradarshini 24

1.4	Psychalyzer: Early childhood Psychological Assessment
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Group No.:08

Group Members: Vedant Pawar, Vedant Tawade, Nikhil Singh, Soham Tawade

Mentor: Dr(Mrs) Sujata Khedkar

Abstract: Our app is designed to early detect developmental disorders like ASD, ADHD, and language impairments through AI algorithms that analyze behavior studies and medical records, offering personalized interventions for enhanced quality of life. It also aids children in real-time emotional regulation, using advanced NLP, machine learning, and user-friendly interfaces for accurate psychological and personality trait evaluation. Beyond early detection and emotional support, the app provides detailed progress reports with visual analysis, enabling parents and caregivers to gain invaluable insights into their child's development. Additionally, it connects users with experienced counselors for expert guidance tailored to each child's needs, ensuring multifaceted support for social and emotional growth.

GitHub Repository: [Link](#)

1.5	Image Descriptor
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Group No.:09

Group Members: Dipti Hemnani, Harshita Jawaharmalani, Tarun Sharma, Sachin Kundal

Mentor: Dr(Mrs) Sujata Khedkar

Abstract: This paper introduces an innovative method for analyzing sentiments

expressed through images on social media platforms. By combining image descriptors with deep learning techniques such as VGG-19, VGG-16, ResNet, and custom convolutional neural networks (CNNs), the study aims to improve sentiment analysis by incorporating both visual and textual cues. Through fine-tuning pre-trained models, optimizing network structures, and using regularization techniques, the research addresses current limitations in emotion recognition, data quality, ambiguity, and subjectivity. The integration of artificial intelligence and deep learning into the software framework enables robust analysis of user-generated content on social media. Results from experiments highlight the transformative potential of image-based sentiment analysis in understanding user emotions online.

GitHub Repository: [Link](#)

1.6	Lane Following and Navigation in a Self Driving Car using Reinforcement Learning
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Group No.:15

Group Members: Param Pandey, Bhavesh Ajwani, Pratham Shetty, Anurag Tripathi

Mentor: Dr. Rohini Temkar

Abstract: The research explores the development and training of an autonomous driving agent within a simulated environment. The study focuses on where the agent learns to navigate and control a vehicle effectively. The environment incorporates continuous steering control, goal-oriented navigation. Through the utilization of the CARLA simulator and reinforcement learning techniques, specifically the Proximal Policy Optimization (PPO) algorithm, the agent learns to interact with the environment, receiving visual input from a camera and making decisions based on the observed surroundings. The training process involves iteratively improving the agent's performance over multiple training iterations, adjusting its policy to optimize driving behavior. Additionally, the research investigates various reward mechanisms to incentivize desirable actions and penalize undesirable ones, aiming to shape the agent's behavior towards safe and efficient driving. The results demonstrate the effectiveness of the proposed approach in training an autonomous driving agent capable of navigating, while adhering to specified driving objectives. This research contributes to the advancement of autonomous vehicle technology, offering insights into the development of intelligent driving systems through simulation-based reinforcement learning

approaches.

GitHub Repository: [Link](#)

1.7 | Detection of Criminal activities through CCTV

Group No.:16

Group Members: Richita Karira, Manav Keswani, Tanmay Chaudhary, Soumil Tawde

Mentor: Dr. Rohini Temkar

Abstract: Hearing about the violent activities that occur on a daily basis around the world is quite overwhelming. Personal safety and social stability are seriously threatened by the violent activities. A variety of methods have been tried to curb the violent activities which includes installing surveillance systems. It will be of great significance if the surveillance systems can automatically detect violent activities and give warning or alert signals.

The proposed method is a deep learning based automatic detection approach that uses Convolutional Neural Network to detect violence present in a video. But, the disadvantage of using just CNN is that it requires a lot of time for computation and is less accurate. Hence, a pre-trained model, MobileNetV2, which provides higher accuracy and acts as a starting point for the building of the entire model. An alert message is given to the concerned authorities using a telegram application.

GitHub Repository: [Link](#)

Awards & Laurels: 2nd Prize in Pradarshini 24

1.8 | Tour Sentiments: Personalized recommendations system using AI and Deep Learning

Group No.:19

Group Members: Parth Wande, Sarvesh Dongare ,Aniket Pradhan, Jay Thakker

Mentor: Dr Dashrath Mane

Abstract: In a world saturated with travel information overload and generic

recommendations, "Tour Sentiments: A Personalized Travel Recommendation System Using AI " emerges as a groundbreaking initiative. This project seeks to transform travel planning by harnessing the capabilities of Artificial Intelligence and real-time google Maps with street view and duration of travel .

The primary goal of 'Tour Sentiments' is to create a personalized travel recommendation system that adapts to the changing emotions and preferences of travelers. By employing real-time sentiment analysis using google gemini, the system aims to offer tailored suggestions that align closely with individuals' current feelings and desires, departing from conventional one-size-fits-all approaches.

Beyond mere efficiency, the ultimate vision of 'Tour Sentiments' is to elevate the travel experience, infusing it with joy, discovery, and lasting memories. Through the amalgamation of AI and sentiment analysis, the project aspires to make global exploration more accessible and captivating, setting a new standard for personalized travel guidance and enriching journeys worldwide.

GitHub Repository: [Link](#)

1.9	Smart board using hand gesture recognition
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Group No.:20

Group Members: Piyush Malviya, Himesh Hotwani, Manav Beri, Amaan Radhanpura

Mentor: Dr Dashrath Mane

Abstract: In the contemporary era dominated by digital advancements, the demand for innovative human-interacting machines has surged, with Augmented and Virtual Reality leading the way. This transition extends to the realm of art, where traditional writing methods are gradually being replaced by digital alternatives. This shift involves moving from pen and paper or chalk and board to sophisticated digital art platforms. One such evolution is the development of a hand-gesture recognition system for digital writing, where traditional tools like keyboards or digital pens are replaced by recognizing and interpreting hand movements.

This project introduces the concept of a Smart Board, a revolutionary hands-free digital drawing system. The Smart Board utilizes computer vision algorithms and OpenCV libraries to detect and interpret the gestures of the user's hands, transforming air-drawn

images or writing into digital content displayed on a screen. The system operates by leveraging input devices, such as cameras, to capture and interpret the user's hand movements in real-time.

The proposed Smart Board offers a versatile platform for a myriad of applications, particularly in the fields of education and business meetings. It provides a novel and interactive way for users to express themselves creatively without the need for physical tools. Moreover, the system can be a valuable communication tool for individuals with speech impairments, allowing them to convey messages through hand gestures.

GitHub Repository: [Link](#)

1.10	Hand gesture recognition system using Convolution Neural Network (CNN).
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Group No.:22

Group Members:Aditya Mangtani, Hiten Kataria, Pratik Waghralkar,Shrinivas Ghumare

Mentor: Mrs. Vidya Zope

Abstract: Hand gestures hold significant potential in computer vision, offering a native means of interaction. For the deaf population, hand gesture-based methods present a vital communication channel as they bridge the gap in spoken language through sign language. In this mini-project, we aim to develop a Real-time Human Hand Gesture Recognition System using front-facing cameras in monitors/laptops. The aim of this project is to remediate communication barriers faced by the deaf community. The model will be based on image capturing and converting identified gestures into machine grammar to provide natural and intuitive intercommunication for deaf individuals. Additionally, the system's real-time capabilities and user-friendly interface aim to enhance ease of usage for all users, paving the way for a more inclusive and accessible technology.

GitHub Repository: [Link](#)

1.11	Digitizing PDF content: OCR for typed and handwritten text to JSON / CSV
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Group No.:29

Group Members: Yash Chhaproo, Uzair Shaikh, Anurag Shirsekar, Sai Thikekar

Mentor: Lifna C S

Abstract: Optical Character Recognition (OCR) serves as a critical component in various applications, ranging from document digitization to automated data entry. In this study, we propose DeepOCR, a novel framework that combines Convolutional Neural Networks (CNNs) and Bidirectional Long Short-Term Memory (Bi-LSTM) networks for enhanced OCR performance. DeepOCR leverages the hierarchical feature extraction capabilities of CNNs to effectively capture intricate patterns within input images, while Bi-LSTM networks exploit sequential dependencies in character sequences. Furthermore, we employ Connectionist Temporal Classification (CTC) as a loss function to train the model end-to-end without requiring aligned input-output pairs. Through comprehensive experiments on benchmark datasets, DeepOCR demonstrates superior performance compared to conventional OCR systems, achieving remarkable accuracy rates and robustness across diverse input conditions. Our findings highlight the efficacy of integrating deep learning architectures and sequence modeling techniques for advancing OCR technology, paving the way for more efficient and reliable document processing solutions in real-world applications.

GitHub Repository: [Link](#)

1.12 | **FitVision: Smart posture analysis for effective workouts**

Group No.:30

Group Members: Kevin Patel, MKaif Qureshi, Dhruva Chaudhari, Krishnam Raja

Mentor: Mrs.AbhaTewari

Abstract: The “FitVision: A Solution for Accurate Exercise Form Assessment” project aims to develop an innovative system that leverages the power of Artificial Intelligence (AI) and Computer Vision to enhance exercise form assessment. With a growing focus on health and fitness, proper exercise form is crucial to avoid injuries and optimize workout effectiveness. FitVision addresses this challenge by utilizing advanced computer vision techniques to detect and analyze a person's exercise form.

GitHub Repository: [Link](#)

1.13	Smart Sorting: Deep learning-powered metadata creation for documentary video catalog
Group No.: 31	
Group Members: Pranav Rane, Amisha Chandwani, Anmol Gyanmote	
Mentor: Mrs.AbhaTewari	
<p>Abstract: Video is a vital and effective form of data which is capable of providing actual pictures of the scenario at hand. Nowadays this form of data is available in large numbers. Categorizing the videos allows us to easily access them. To incorporate this process manually is a hectic and time consuming task. Automating the video classification and metadata generation task by utilizing the deep learning methods and computer vision techniques can overcome the issue. Our objective in this paper is to incorporate novel approach in sorting the videos and classifying them into predefined categories and further extracting textual information, carrying out transcription of the video and detecting a number of predefined objects in the same. For this purpose we have a dataset that includes large number of clips that are to be sorted into 11 categories by processing them using computer vision and neural networks. Metadata extraction was executed by Natural Language Processing (NLP) and Named Entity Recognition (NER). We believe that this project would be helpful for a number of industries providing them an automated way to store and retrieve their audio visual form of data and reduce the manpower required for the same. The results for the process have been found after thoroughly examining multiple deep learning approaches and other computational techniques that would be capable of providing us the best result possible.</p>	
GitHub Repository: Link	
1.14	Smart travel itinerary
Group No.: 33	
Group Members: Riddhi Labde, Priti Shamnani, Neha Valecha	
Mentor: Mrs.Pallavi Gangurde	
<p>Abstract: The "Smart Travel Itinerary" system is designed to streamline the travel planning process. By providing details such as your desired destination, travel dates,</p>	

preferred trip type, and hotel specifications, the system will generate a personalized itinerary tailored to your preferences. This itinerary will include all relevant activities and attractions to ensure you make the most of your vacation. With the system handling the planning details, you can relax and focus on enjoying your trip without the stress of organizing it yourself.

GitHub Repository: [Link](#)

1.15 | Dehazing of satellite images using Deep Learning

Group No.:37

Group Members: Aditya Gaikwad, Tejas Ghodke, Atharva Jadhav, Malhar Pande

Mentor: Mr. Sanjay Mirchandani

Abstract: Images captured in hazy weather conditions can be degraded by scattering of atmospheric particles which changes the color, and makes the object features difficult to identify by human vision and by some outdoor computer vision systems. Visibility and contrast of the scene are highly affected by atmospheric factors. Fog or Haze decreases the clarity of satellite images. Hence image dehazing plays an important role in removing the influence of weather factors to improve the quality of image. Image dehazing is the process of scenically improving the degraded visibility caused by atmospheric conditions. The main aim is to restore the scene radiance from the hazy image. Several methods have been proposed to improve the quality of hazy images, including estimating the transmission function based on a linear model, using deep learning techniques, and incorporating boundary constraint and contextual regularization.

GitHub Repository: [Link](#)

1.16 | CMS detector quality assurance using ML methods

Group No.:46

Group Members: Ayush Gerra, Anisha Rohra, Preethika Shetty, Sneha Tanna

Mentor: Mr. Richard Joseph

Abstract: The Large Hadron Collider (LHC) at CERN is the largest particle ion accelerator which accelerates to nearly the velocity of light and collides them at four locations around its ring. At one of its four collision points, the Compact Muon Solenoid (CMS) Detector acts as a high-speed camera, taking “photographs” of particle collisions from all directions up to 40 million times each second. During the upgrade of the CMS Detector, a sizable number of silicon sensor modules and scintillators would be built for the experiment's High-Granularity Calorimeter (HGCal). In doing so, every sensor module will be validated for 700 checkpoints by visual inspection. In place of the traditional methods of inspection involving manual intervention, we suggest a Quality Assurance framework analyzing components of sensor modules across various stages of assembly using deep learning-based computer vision techniques to automatically find fabricating flaws when evaluating a large number of modules to properly assess the checkpoints and improve the efficiency for production of sensor modules.

GitHub Repository: [Link](#)

1.17 | Medicine ordering system using IVR

Group No.:47

Group Members: Aditya Kushwaha, Lintomon Chirakkara, Vedant Talwalkar, Chinmay Phapale

Mentor: Mr. Richard Joseph

Abstract: The combination of Artificial Intelligence (AI) and Interactive voice response (IVR) technologies in healthcare has resulted in a novel method to pharmaceutical ordering and delivery. This project proposes a IVR-Based Medicine Ordering System that uses interactive voice response to harness the potential of artificial intelligence (AI). The technology improves the efficiency, transparency, and security of pharmaceutical procurement by combining the inherent data integrity and traceability with the user-friendly interface of IVR. By allowing consumers to communicate with the system using natural language, the ordering process becomes more efficient and accessible, breaking down old boundaries. The initiative aims to transform the landscape of pharmaceutical procurement through this creative collaboration, creating a safe and smooth experience for patients, healthcare practitioners, and pharmacists alike

GitHub Repository: [Link](#)

1.18	ParkinSense: A machine learning approach to classify Parkinson's disease
Group No.: 50	
Group Members: Aaryan Mahadik, Raj Tandon, Kunal Khubchandani, Bhavika Valecha	
Mentor: Ms. Veena Trivedi	
<p>Abstract: Parkinson's Disease (PD) is a progressive neurodegenerative disorder that primarily affects motor functions, leading to tremors, rigidity, and bradykinesia (slowness of movement). Early and accurate diagnosis of PD is crucial for effective treatment and management of the disease. This project aims to develop a robust and reliable system for the detection of Parkinson's Disease using speech signals.</p> <p>The human voice carries valuable information about a person's health, and changes in speech patterns can provide valuable insights into the presence of PD. This project focuses on utilizing advanced signal processing techniques and machine learning algorithms to analyze speech signals and extract relevant features that can distinguish between individuals with PD and healthy individuals.</p>	
GitHub Repository: Link	
1.19	CarboNeutral
Group No.: 52	
Group Members: Dhara Bhatia, Chiraag Chugh, Sonnal Katara, Neha Lotwani	
Mentor: Ms. Priti Joshi	
<p>Abstract: The surge in transportation, rapid population growth, and industrialization has led to a notable escalation in atmospheric carbon levels. While transportation, industrialization, and technological advancements have bestowed benefits upon modern society, they concurrently pose significant concerns by contributing to carbon footprint generation. A carbon footprint serves as a metric to quantify the total greenhouse gas emissions, predominantly carbon dioxide, attributable to individuals, organizations, or activities within a specified timeframe. This metric, typically expressed in metric tons of carbon dioxide equivalent (CO₂e), underscores the environmental</p>	

impact of human actions. The potential environmental impact of the digital technologies themselves. While digital management strategies offer promising avenues for carbon footprint reduction, the manufacturing, operation, and disposal of digital devices and infrastructure also contribute to carbon emissions.

GitHub Repository: [Link](#)

2. Big Data Analytics & Machine Learning

2.1 Behavioral Analysis and Risk Assessment of Two-Wheeler Drivers

Group No.:01

Group Members: Simran Ahuja, Jesica Bijju, Sejal Datir, Sania Khan

Mentor: Dr. Nupur Giri

Abstract: This research paper focuses on the driving behavior of two wheeler riders who are particularly vulnerable to road accidents. Through the analysis of time-series data collected from real-world driving scenarios, the study aims to develop machine learning models for risk assessment and anomaly detection. The paper starts by outlining the alarming statistics of road accidents in India, emphasizing the urgent need for effective solutions. The study explores the effectiveness of five distinct models: Long Short-Term Memory -Residual (LSTM-R), Gated Recurrent Unit (GRU), Adaboost , XGBoost, Multilayer Perceptron (MLP) with Random Forest (RF) ensemble.

GitHub Repository: [Link](#)

Awards & Laurels:

2.2 Detection of issues caused by abnormal hormonal changes in menstruators using ML

Group No.:03

Group Members: Attreyee Mukherjee,Amogh Inamdar,Yashodhan Sharma,Saumya Tripathi

Mentor: Dr. Nupur Giri

For those who are designated as female at birth, hormonal health is essential to general well-being; nevertheless, conditions such as PCOS, endometriosis, and UTIs pose serious obstacles to reproductive health. Sakhi is a unique application that uses Machine Learning (ML) techniques to detect disorders proactively in order to solve this. Sakhi uses a customized questionnaire to gather user data. Machine learning methods such as Decision Tree Classifier, Logistic Regression, Random Forest Classifier, Support Vector Machines, and xgBoost classifier are then used to analyze trends in the user's hormonal health history and symptoms. Sakhi is a non-invasive platform for users to monitor and manage their hormonal health, offering individualized insights and suggestions, by spotting deviations from typical swings in hormone levels. This creative strategy encourages access to healthcare services and understanding of hormonal health, enabling people to mitigate the effects of hormonal disorders through proactive healthcare management.

GitHub Repository: [Link](#)

2.3 | TravelSage: An AI-based system for Tourists

Group No.:04

Group Members: Gayatri Vaidya, Vaishnavi Chavan , Shreya Nalawade

Mentor: Dr.(Mrs.) Gresha Bhatia

Abstract: The tourism industry is currently undergoing a profound transformation, largely driven by the integration of cutting-edge Artificial Intelligence (AI) technologies. One such pioneering initiative is TravelSage, a platform that introduces an innovative approach to enriching the tourism experience through the implementation of an Intelligent Tourism System. This groundbreaking system seamlessly merges AI-powered chatbot technologies to deliver personalized and frictionless services to travelers. At the heart of TravelSage lies its AI-based chatbot, meticulously crafted using advanced tools like Langchain and the OpenAI Assistant system. This chatbot serves as a proficient guide, adept at crafting tailored itineraries based on users' preferences and interests. Whether one seeks adventurous escapades, cultural immersions, or leisurely pursuits, the chatbot adeptly curates bespoke travel plans, ensuring an unforgettable journey for every individual. Moreover, TravelSage offers an array of supplementary

features to enrich the travel experience further. One such feature is virtual tours, providing users with comprehensive insights and captivating glimpses into their desired destinations. These immersive experiences allow travelers to familiarize themselves with the attractions and ambiance of their chosen locales, fostering anticipation and excitement for their upcoming adventures. Additionally, TravelSage facilitates hassle-free accommodation and travel arrangements with its integrated hotel accommodation and flight booking functionalities. With a user-friendly interface and intuitive navigation, travelers can effortlessly browse, compare, and reserve accommodations and flights, streamlining the entire travel planning process.

GitHub Repository: [Link](#)

Awards & Laurels:

2.4	CognitiveCare: A Comprehensive software for early detection & management of Alzheimer's disease and Mild Cognitive Impairment (MCI)
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Group No.:05

Group Members: Amit Murkalmath, Ilham Syed, Rishi Kokil, Pavan Thakur

Mentor: Dr. Gresha Bhatia

Abstract: This study proposes an innovative approach to tackle Alzheimer's Disease (AD) and Mild Cognitive Impairment (MCI) by combining medical expertise with modern technology. Through the integration of Health Expertise and Machine Learning (ML), we aim to create a robust software platform for early detection and improved patient recovery. Our method involves analyzing neurological data to uncover patterns crucial for informed decision-making in managing AD and MCI. Additionally, our software incorporates cognitive games tailored for Alzheimer's patients to enhance cognitive functions and engagement, along with a community forum designed for support and shared experiences. Furthermore, we utilize a Convolutional Neural Network (CNN) model for efficient classification of AD, ensuring accurate diagnosis. This research promises to reshape the landscape of cognitive disorder diagnosis and treatment, offering hope for better outcomes for patients and their families.

GitHub Repository: [Link](#)

2.5	Indian bird species recognition using deep learning
Group No.: 17	
Group Members: Yashneil Ballani, Netal Bhansali, Rashika Chandwani, Bhanu Shamdasani	
Mentor: Mrs. Geocey Shejy	
<p>Abstract: With the increasing availability of audio recording devices and the advancement of deep learning techniques, automatic bird voice recognition has emerged as an effective tool to identify bird species based on their distinct vocalizations. This abstract presents an overview of a novel approach to recognize bird species using bird voice recognition in combination with deep learning algorithms. The proposed system begins by collecting India specific audio recordings of bird vocalizations in various natural habitats. These audio samples are pre-processed to remove background noise, normalize the audio levels, and extract relevant acoustic features, such as pitch, amplitude, and frequency modulation. The resulting feature vectors serve as inputs to the deep learning model.</p>	
GitHub Repository: Link	
Awards & Laurels:	
2.6	Wireless extraction system for Industrial data
Group No.: 25	
Group Members: Shreya Hadkar , Johan John, Manali Patil, Vedang Rathi	
Mentor: Priya R.L	
<p>Abstract: India, a developing nation, has served as a hub for the development of new technologies and industries. Numerous new sectors are emerging, along with several well-established ones that require an increasing number of machines. Keeping track of the data displayed by various machines was a strenuous and exhausting chore for humans in the world of today, with its rapidly developing technology and surge in industrial development.</p>	

It is tedious to extract the data and maintain a record of it without interfering with the operation of the machines. However, with the aid of new Artificial Intelligence Tools, a workable solution can be found to these problems.

The main goal of this project is to collect data from industrial equipment display panels, identify it, and store it in a database. It sets an alarm if data exceeds acceptable limits.

The proposed system will make use of OCR techniques and YOLO models to recognise data from real-time video that would be converted to multiple frames with greater efficiency. The devices to be utilized would include a low-resolution camera capable of aiding in the detection of data from display panels.

With excellent accuracy, efficiency, and dependability, this project seeks to revolutionize wireless data extraction by employing powered artificial intelligence techniques.

GitHub Repository: [Link](#)

2.7	TourQuest: Unveil & Experience
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Group No.:44

Group Members: Soham Keleaskar, Vaibhavi Shetty, Tanya Lilani

Mentor: Mrs. Pallavi Saindane

Abstract: The tourism industry has experienced remarkable growth, becoming a vital contributor to global economies and cultural exchange. This tourism guide offers a comprehensive overview of an enchanting and diverse travel destination that promises unforgettable experiences for visitors. When people travel, they want to see more than just famous spots - they want to know the stories and culture behind them. But it's not always easy to find the right information or know where to go. The AR based Smart Tourist App is a new way to make travel exciting and easy. This app uses smart technology to help travelers explore and learn about new places. It's like having a friendly guide on your phone. With this app, you can simply point your phone at a place, and it will give you information about it. You can also follow interactive stories and collect rewards as you explore.

GitHub Repository: [Link](#)

Awards & Laurels:

2.8	Efficiency, speed & Parallel computing: Implementing CUDA for real-world applications
Group No.:45	
Group Members: Anagha Kulkarni, Chengalva Sai Harikha, Ketaki Sahasrabudhe, Sairaj Deshpande	
Mentor: Mr. Richard Joseph	
<p>Abstract:</p> <p>In recent years, the demand for high-performance computing has surged across various fields, ranging from scientific simulations to data analytics and artificial intelligence. To meet this demand, parallel computing technologies like CUDA (Compute Unified Device Architecture) have emerged as pivotal tools for leveraging the immense computational power of modern GPUs (Graphics Processing Units). CUDA, developed by NVIDIA, provides a framework for programming GPUs to perform massively parallel computations, offering significant speedup over traditional CPU-based computing. Our project outlines the integration of CUDA-accelerated algorithms with GNN architectures tailored to the unique characteristics of LHC(Large Hadron Collider) data. By exploiting the parallel processing capabilities of CUDA, computations involved in data preprocessing, feature extraction, and model training can be significantly accelerated, leading to expedited insights into fundamental particle interactions. Through a combination of CUDA and GNNs, this research aims to advance our understanding of fundamental physics phenomena observed at the LHC. By efficiently analyzing vast datasets and extracting nuanced features, this approach promises to uncover new insights into the nature of particle interactions, potentially leading to discoveries beyond the scope of conventional analysis methods.</p>	
GitHub Repository: Link	
3.	IoT, Robotics & Embedded Systems
3.1	Ultrasound image analysis for detection of down syndrome
Group No.:35	
Group Members: Manan Dadlani, Ajay Gangwani, Manish Mulchandani	

Mentor: Mrs. Nusrat Ansari

Abstract: Down syndrome (DS), also known as trisomy 21, is one of the most common chromosomal disorders, affecting approximately 1 in 700 live births. This study aims to explore the correctness and accuracy using ultrasound imaging techniques for identifying Down syndrome. A diverse dataset is compiled containing both normal and Down syndrome cases, and interpreted for supervised training. Customized Convolutional Neural Networks (CNNs) are developed to effectively extract the features from fetal face images. The successful implementation of the proposed solution promises to transform prenatal care, offering a reliable and accurate screening tool for early Down syndrome detection.

GitHub Repository: [Link](#)

Awards & Laurels:

4. Image Processing, Virtual & Augmented Reality

4.1 उपस्थिति: An attendance marking application using Facial Recognition of Kindergarten Students

Group No.:32

Group Members: Prathamesh Jawale, Manav Vishwakarma, Prakash Meghani, Meet Kewalramani

Mentor: Mrs. Mannat Doulatani

Abstract: In an increasingly digital and interconnected world, the integration of technology into various aspects of our lives has become almost second nature. One such application that has been prominently used in recent years is the use of facial recognition technology for marking and authentication purposes. This technology can overcome the old Traditional methods and can make the use of new technology for marking , tracking and for Evaluation purposes. Facial recognition technology uses the unique patterns and features of an individual's face to identify and verify their identity. We will examine the underlying technology, its key benefits, potential use cases across different industries, and the ethical considerations that accompany its implementation.

GitHub Repository: [Link](#)

5.	Networking, Security & Blockchain
5.1	Smart vehicle complaint redressal system (SV-CRS)
Group No.:26	
Group Members: Vinesh Paralkar, Sadhak Kumar, Maanas Ruchandani, Ravi Valecha	
Mentor: Mrs. Priya R.L.	
<p>Abstract: The project proposes a system that combines Internet of Things (IoT) and blockchain technology to improve the vehicle tracking and traffic ticket generation process for the Regional Transport Office (RTO) in India. The system aims to address the lacunae in the existing centralized RTO database by utilizing IoT sensors to collect data from vehicles and traffic cameras. This data is then recorded on a blockchain ledger to create an immutable record of vehicle information and traffic violations. Smart contracts are employed to automate ticket issuance with video proof for violations detected via sensor data and camera footage. The system also incorporates a separate blockchain for managing complaints related to issued tickets. Additionally, GPS technology is integrated to enable sending emergency messages with location details. The proposed solution seeks to enhance efficiency, transparency, and trust in the RTO operations by leveraging the decentralized and tamper-proof nature of blockchain technology.</p>	
GitHub Repository: Link	
Awards & Laurels: Patent Published	
5.2	Data security using multimedia steganography
Group No.:36	
Group Members: Vishakha Singh, Manasi Sharma, Anushka Shirode	
Mentor: Mr. Sanjay Mirchandani	
<p>Abstract: Various pre-available tools like Steghide, OpenPuff, OpenStego, and Audacity have been explored for image and audio steganography. Steganalysis algorithms using</p>	

the Python library, Shannon Entropy, Gaussian Mixture Model, Scale-Invariant Feature Transform, and Spatial Rich Model have been used. A comparison table comprising the various algorithms in combination with the pre-available tool is done to draw the necessary conclusions. The work aims to explore and compare the accuracy and loss values between various steganography techniques like Simple CNN, Batch Normalization, and ResNet101.

GitHub Repository: [Link](#)

5.3 | Patient record system using blockchain

Group No.: 28

Group Members: Mayuresh Sawant, Swaraj khadge, Jeet Dalal, Harsh Tuli

Mentor: Mrs Lifna.C.S

Abstract: Data-sharing in healthcare is critical for a complete patient care experience. A patient goes to multiple hospitals/ clinicians in their healthcare journey but their medical data is not being recorded in a confidential and integral way by any authority. Doctors at some different clinics might need to refer to a patient's medical history to make good decisions for treatment. We aim to build a blockchain solution using hyperledger fabric that can offer a way to share the patient's medical data with various healthcare-related organizations while maintaining data integrity, confidentiality and patient privacy. Hyperledger blockchain technology addresses the challenges of data security, privacy, and interoperability in the healthcare sector. Hyperledger Fabric, with its permissioned blockchain network and robust privacy controls, offers a promising solution for securely managing and sharing sensitive health information while ensuring compliance with regulatory requirements. The proposed EHR system leverages Hyperledger Fabric's features such as fine-grained access control, immutable ledger, and smart contracts to enable patient-centric data management, transparent auditability, and seamless interoperability between healthcare providers. By employing Hyperledger blockchain technology, this study aims to enhance trust, transparency, and efficiency in healthcare data management, ultimately improving patient outcomes and healthcare delivery.

GitHub Repository: [Link](#)

Awards & Laurels: -

6.	Cloud Computing & High Performance Computing
6.1	Virtual Lamp stack on cloud
Group No.: 18	
Group Members: Nikhil Makhija, Somnath Batra, Rishi kathpal	
Mentor: Mrs. Geocey Shejy	
<p>Abstract: The Lamp Stack Cloud is a dynamic and efficient cloud computing environment that seamlessly integrates the Linux operating system, the Apache web server, the MySQL database management system, and a choice of PHP, Perl, or Python as the server-side scripting language. This robust infrastructure empowers developers and businesses with a versatile platform for building, deploying, and managing web applications. Leveraging the power of the cloud, the Lamp Stack Cloud offers scalability, reliability, and ease of deployment, making it an ideal choice for startups, enterprises, and developers looking to create and host web applications with flexibility and efficiency. This abstract explores the key components and benefits of the Lamp Stack Cloud, highlighting its role in modern web development and cloud computing ecosystems.</p>	
GitHub Repository: Link	
7.	Application Design & Product Development
7.1	Delivery X: Optimizing Delivery of Parcels
Group No.:10	
Group Members: Kinjala Ahuja, Taufique Ansari, Devangana Barua, Dipanshu Ghime	
Mentor: Dr. Sharmila Sengupta	
<p>Abstract: DeliveryX's primary goal is to offer a platform so that individuals traveling from point A to point B can deliver packages that are in route. This will accelerate delivery and allow for lower costs. Additionally, it will give travelers an additional source of income as they can earn money while on their way. In order to put the aforementioned theory into practice, we must develop a robust application which will be for the sender as well as for the travelers.</p>	

Admin will connect the two roles so that we can map the sender, orders, and delivery personnel. We shall verify delivery personnel's contact details and Aadhar numbers in order to gain users' trust and as a precaution. We will also require the traveler's wallet (bank/PayTM) details in order to transfer the amount, as they will get payment upon successful delivery. Various terms and conditions and insurance policies will be in place to guarantee the parcel's safe delivery.

DeliveryX needs to build a strong community of senders and travelers in order to be successful. This can be done by offering incentives to both groups, such as discounts for senders and higher delivery rates for travelers. It should be easy to use for both senders and travelers. Senders should be able to quickly and easily post packages, and travelers should be able to quickly and easily find and accept packages to deliver. DeliveryX needs to provide excellent customer support to both senders and travelers. This will help to ensure that everyone has a positive experience using the platform. It has the potential to be a global platform.

GitHub Repository: [Link](#)

Awards & Laurels: 1st Prize in Pradarshini 24

7.2	Elderlyeaze: A friendly tour for the elderly
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Group No.:11

Group Members: Karuna Hotumalani, Disha Tardeja, Kashish Jadhvani, Sakshi Valecha

Mentor: Dr. Sharmila Sengupta

Abstract: An revolutionary era in senior healthcare, embodied by our website - a sanctuary where compassion meets invaluable resources. Our abstract offers a window into a purpose-built platform meticulously crafted to cater to the distinctive requirements of our beloved senior citizens. Within these virtual walls, we provide an extensive spectrum of health services, fortified by robust support systems and a wealth of informative content. At the heart of our mission is the commitment to enhancing the well-being of our seniors, ensuring a holistic approach to their healthcare needs. From specialized health services tailored to the elderly to a robust network of support systems, our platform stands as a beacon for those seeking comprehensive and compassionate care. As you navigate through our website, you'll discover a trove of information curated specifically for seniors, empowering them to make informed

decisions about their health and lifestyle.

GitHub Repository: [Link](#)

7.3 | Movie Review System

Group No.:12

Group Members: Mahendra Girase, Mohit Patil, Aryan Manghi, Prasad Chaudhari

Mentor: Dr. Prashant Kanade

Abstract: The platform's user-centric approach extends to personalized profiles, providing a central hub for users to monitor and engage with their theories efficiently. The chatbot feature not only enhances user experience but also facilitates the discovery of new films aligned with individual preferences, fostering a deeper connection between users and the platform. Moreover, by categorizing reviews into sentiments using ML and NLP, the system not only simplifies user feedback but also offers filmmakers and production houses valuable insights into audience preferences. This deeper understanding contributes to the industry's overall success by enabling more targeted content creation and delivery. In essence, this project introduces a streamlined yet sophisticated system that not only enhances the user experience but also serves as a valuable tool for stakeholders in the film industry to adapt and refine their offerings based on audience reactions and preferences.

GitHub Repository: [Link](#)

7.4 | Patient Management System

Group No.:13

Group Members: Muskan Talreja, Neha Sewani, Chirag Mangtani, Pratham Karia

Mentor: Dr. Prashant Kanade

Abstract: In India, managing patient records and delivering timely healthcare services presents a formidable challenge due to the country's dense population and varied healthcare needs. A patient management system serves as a critical tool in addressing these challenges by offering a comprehensive solution for healthcare professionals and

administrators to seamlessly manage patient information. By providing a centralized database, this system enables secure storage and quick access to patient records, including medical history, appointments, treatments, and prescriptions. It streamlines appointment scheduling, allowing patients to book appointments online and reducing waiting times. Moreover, the system facilitates the digitization of prescriptions, ensuring accurate medication dispensing and electronic transmission to pharmacies. Through data analytics, healthcare providers can gain insights into patient demographics, disease trends, and treatment outcomes, aiding in decision-making and resource allocation. By fostering communication between healthcare providers and patients and enhancing accessibility and usability, this system improves patient satisfaction and overall health outcomes, particularly benefiting rural communities by ensuring timely access to quality healthcare services.

GitHub Repository: [Link](#)

7.5	Medicine Stock system for Health Centres
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Group No.:14

Group Members: Tisha Jeswani , Dinky Khatri , Jiya Lund , Varsha Makhija

Mentor: Dr. Prashant Kanade

Abstract: The proposed Medicine Stock Management System seeks to address the challenges faced by healthcare facilities in India, including stockouts, overstocking, and manual errors in inventory management. By providing real-time tracking, demand forecasting, and barcode integration, the system aims to optimize resource utilization, streamline supply chain processes, and enhance patient care outcomes in rural communities. Key features include a user-friendly interface for efficient data entry and retrieval, and secure access through a registration page for authorized personnel.

GitHub Repository: [Link](#)

7.6	On-road vehicle breakdown assistance
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Group No.: 21

Group Members: Soham Panjabi, Jiya Gangwani, Hitesh Punjabi, Varsha Chhabria

Mentor: Mrs. Vidya Zope

Abstract: In today's dynamic and mobile landscape, encountering vehicle breakdowns is an inherent aspect of the driving experience. This abstract introduces an innovative On-Road Vehicle Breakdown Assistance System, a mobile application that swiftly aids distressed motorists. Through the use of cutting-edge technology like GPS and mobile networking, the system makes sure that roadside help is coordinated effectively.

Breakdown Buddy specifically addresses mechanical issues in maximum locations. Users benefit from a comprehensive directory of qualified experts, ensuring timely assistance in difficult breakdown situations – transforming the breakdown experience into a seamless and reassuring process, akin to the convenience offered by popular ride-sharing services like Uber and Ola.

GitHub Repository: [Link](#)

7.7 | Journey Junction: Discovery, Connect, Travel! - Web Application

Group No.:23

Group Members: Vidisha Jadhvani, Anjala Goreja, Priyanshu Gurwani, Aradhya Ingle

Mentor: Mrs. Indu Dokare

Abstract: This web application (Journey Junction) constitutes a web-based comprehensive journey and exploration platform, strategically crafted to facilitate seamless connections among individuals for discovering novel locations. Employing cutting-edge web technologies and real-time data updates, this web application enables users to streamline travel planning, establish travel communities, and engage in shared adventures. Prominent features encompass personalized travel recommendations, group formation tools, and user-friendly interfaces prioritizing a smooth and consistent user experience.

By cultivating a community of like-minded travelers, the platform facilitates the discovery, collaboration, and execution of memorable journeys for both solo adventurers and travel groups.

GitHub Repository: [Link](#)

7.8 | Patient health monitoring system using ML

Group No.:24

Group Members: Ayush Balwani, Akash Fatnani, Pratham Nathani, Devyaansh Razdan

Mentor: Mrs Indu Dokare

Abstract: The aim of "Patient Health Guardian: A Machine Learning-based Health Monitoring System" is to develop a comprehensive web-based platform that facilitates monitoring of patient health conditions, with a focus on improving doctor-patient interactions and treatment outcomes.

The system utilizes machine learning algorithms to analyze patient data, including vital signs, medical history, and prescriptions, to provide predictive insights into patient health. Traditional patient monitoring systems often lack the ability to prioritize critical cases and provide actionable insights for doctors. "Patient Health Guardian" addresses this gap by implementing a prioritized patient list based on the severity of their conditions. This allows doctors to efficiently manage their workload and focus on patients who require immediate attention..

GitHub Repository: [Link](#)

7.9	NeuroCare - A Mobile Application for Personalized Migraine Care and Lifestyle Management
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Group No.: 27

Group Members: Sanika Hadap, Tanvi Naik, Ajay Iyer, Arya Banavali

Mentor: Mrs. Priya R. L & Dr. Gresha Bhatia

Abstract: NeuroCare is a new mobile application designed to simplify managing migraines and improving lifestyle. It helps users track their migraine episodes easily by logging details like when it happened, how strong it was, and what might have caused it. By also keeping an eye on daily habits, NeuroCare gives personalized tips and strategies to boost overall health. It aims to help users take control of their well-being by bridging the gap between managing migraines effectively and living better.

GitHub Repository: [Link](#)

Awards & Laurels: Won Consolation Prize at Pradarshini 24

7.10	Congenital heart disease prediction using AI
Group No.: 34	
Group Members: Kalpana Gurnani, Prerna Banswani, Madhura Gaval, Vanshika Lalwani	
Mentor: Mrs Nusrat Ansari	
<p>Abstract: The traditional cardiocography (CTG) test Although known as a noninvasive method for fetal heart rate (FHR) monitoring, may not be useful in risky pregnancies where continuous and long-term monitoring is needed, ultrasound waves can be harmful for the fetus. Phonocardiography may be successfully applied for long-term fetal measurement. It is recorded by means of a sensor placed on the mother's abdominal. In the recording of PCG signals, the major problem encountered is the corruption by surrounding noise signals. Corrupted signals cannot be analyzed and used for advanced processing. Hence, there is a need to denoise these signals before being employed for further processing. The aim of the present study was to propose an approach based on adaptive noise cancellation (ANC) for extraction of the fetal heart rate. In the proposed filter structure, a noisy signal is passed through a multistage cascaded adaptive filter structure. number of stages to be cascaded and the step size for each stage are adjusted automatically. The system proposed to design an 8th order bandpass filter with the specified low cut and high cut frequencies, using the 'band' filter type. The output is in the form of SOS coefficients, which can be used to implement the filter</p>	
GitHub Repository: Link	
7.11	Farm2Fork
Group No.: 54	
Group Members: Dinesh Ubrani, Ujwal Gangwani, Aanchal Dayaramani, Gaurav Gurnasinghani	
Mentor: Mrs. Prerna Solanke	
<p>Abstract: Farm2Fork is an innovative multivendor e-commerce platform designed to transform the traditional agricultural supply chain by connecting farmers directly with</p>	

consumers. In many conventional systems, numerous intermediaries exist between the producer and the end consumer, leading to increased costs, inefficiencies, and decreased transparency. Farm2Fork addresses these challenges by cutting out the middlemen and enabling farmers to showcase and sell their products directly to consumers through a user-friendly digital interface.

The platform offers a wide range of agricultural products, including fresh produce, dairy, meat, and artisanal goods, sourced directly from local farmers and producers. By eliminating the need for intermediaries, Farm2Fork empowers farmers to set fair prices for their products and ensures that consumers have access to high-quality, farm-fresh goods at competitive prices.

GitHub Repository: [Link](#)

7.12 | Application of CUDA programming

Group No.:38

Group Members: Vishakha Mangtani, Ruchir Jain & Ketan Paryani

Mentor: Mrs. Sunita Suralkar

Abstract: CUDA (Compute Unified Device Architecture) is a parallel computing platform and programming model pioneered by NVIDIA, designed to leverage the computational prowess of GPUs. It allows developers to accelerate compute-intensive tasks by effectively utilizing the parallel processing capabilities of NVIDIA GPUs. CUDA enables the efficient execution of tasks in parallel, enhancing the performance of various applications, from scientific simulations to deep learning models. Developers can harness CUDA's features to exploit the massive parallelism inherent in GPUs, significantly speeding up computations and unlocking new possibilities for complex and demanding computational workloads.

GitHub Repository: [Link](#)

7.13 | Job Grove

Group No.:39

Group Members: Kavish Punjabi (D12B - 45) , Harsh Chandiramani (D12C - 11) , Aryan

Hinduja(D12A - 23) , Akshita Bathija (D12C - 7)

Mentor: Mrs. Sunita Suralkar

Abstract: Job Grove represents a transformative advancement in the realm of job portals, showcasing sophistication through its cutting-edge features. The platform streamlines the resume creation process with an intuitive Resume Builder, empowering candidates to construct compelling professional profiles effortlessly. Through the integration of machine learning, Job Grove pioneers a personalized job recommendation system, optimizing the alignment between candidates and relevant employment opportunities. Emphasizing trust and authenticity, the platform implements a rigorous company registration and verification process to admit only legitimate entities. This commitment to integrity is further reinforced by an admin-controlled verification mechanism. Beyond its core functionalities, Job Grove enhances the candidate experience by providing an opportunity for anonymous blog reading, fostering knowledge sharing and community building. Job Grove stands as a comprehensive and advanced solution, transcending traditional job portals and cultivating a dynamic and supportive ecosystem for both candidates and companies.

GitHub Repository: [Link](#)

7.14 | Omega Vehicle Station (OVS)

Group No.:40

Group Members: Kunal Vishwakarma(D12B_67), Nikhil Teckchandani(D12B_59), Karan Nagpal(D12B_35), Manav Daryani(D12A_11)

Mentor: Mrs. Sujata Khandaskar

Abstract: The mini project "OVS" endeavors to revolutionize the Electric Vehicle (EV) charging infrastructure, addressing the challenges hindering the widespread adoption of electric mobility. As the world faces the urgent need to reduce greenhouse gas emissions and combat climate change, transitioning to electric vehicles plays a critical role in achieving a sustainable transportation future. However, the current state of the EV charging station network poses significant barriers to the mass adoption of EVs, including limited accessibility, long waiting times, inconsistent charging standards, and range anxiety among potential EV buyers. The project's primary objective is to design and implement a comprehensive and efficient EV charging station infrastructure that

caters to the diverse needs of EV owners and promotes electric mobility as a viable and accessible alternative to conventional vehicles. This abstract presents a detailed overview of the key components and strategies that will be employed to achieve this goal.

GitHub Repository: [Link](#)

7.15 | MedChat: A healthcare chatbot

Group No.:41

Group Members: Khwaish Shahani (D12C56),Jaitra Shahani(D12C 55)
Karan Khatri (D12B 22)

Mentor: Mrs.Rupali Soni / Mrs.Sunita Sahu

Abstract: The existing systems in healthcare barely cater to the needs of the common people, leaving them struggling to navigate the complexities of the healthcare system. This is where our healthcare chatbot comes into play, aiming to revolutionize the process with just a few clicks. Our innovative website seeks to automate the process of seeking healthcare assistance, providing users with a user-friendly platform to voice their concerns, access medical information, predict diseases and connect with the appropriate healthcare resources seamlessly.The BERT (Bidirectional Encoder Representations from Transformers) model is utilized in chatbots for disease prediction by leveraging its capabilities in natural language processing (NLP) and contextual understanding

GitHub Repository: [Link](#)

7.16 | EmoSpeak: An emotionally intelligent TTS system for the visually impaired

Group No.:42

Group Members: Shamal Dhekale(D12A-13), Chandni Gangwani(D12A-16), Bhagyashree Vaswani(D12A-66).

Mentor: Mrs. Yugchhaya Galphat

Abstract: The paper delves into the obstacles confronting individuals with visual

impairments, especially those experiencing blurred vision due to medical conditions or aging, when navigating technology, notably chat services. People with weak eyesight face issues such as inaccessible user interfaces, challenges in reading and inputting text, interpreting visual cues, and engaging in real-time interactions. The central aim is to propose a chat application specifically tailored to enhance communication for this demographic. The proposed solution integrates cutting-edge speech-to-text and text-to-speech conversion, alongside emotion detection using Long Short-Term Memory (LSTM technology). This holistic approach seeks to create a more accessible and inclusive digital communication platform, thereby empowering users to better understand and express their emotions in online interactions.

GitHub Repository: [Link](#)

7.17	EmpowerHer App
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Group No.:43

Group Members: Dhruv Aswani (D12B 2), Praful Pradhan (D12B 43), Aman Sande (D12B 49), Rajveer Tolani (D12B 60)

Mentor: Mrs. Pallavi Saindane

Abstract: In an era marked by technological innovation and social progress, empowering women in rural areas stands as an essential and compelling mission. Women's Safety and Entrepreneurship Application is a transformative digital platform designed to address multifaceted challenges faced by women in rural communities. This application emerges as a beacon of hope and progress, aiming to elevate women's lives in rural areas by fostering both safety and entrepreneurship.

The app's primary objectives encompass enhancing women's safety, promoting financial independence, and nurturing a supportive community. It offers a comprehensive suite of features, including safety tools for immediate assistance, educational resources to build skills, and entrepreneurial support for economic empowerment. Moreover, it fosters a sense of community where women can connect, share experiences, and inspire one another to chase their dreams.

With data-driven insights and local partnerships, our Women's Safety and Entrepreneurship Application ensures that it aligns with the unique needs and cultural contexts of each community it serves. Its sustainability plan secures its long-term impact and fosters lasting improvements in women's lives.

This application represents a catalyst for change, a digital ally in the journey towards gender equality and inclusive development. Through it, women in rural areas can shed limitations, break barriers, and become the architects of their destinies. It's not just an app; it's a movement.

GitHub Repository: [Link](#)

7.18 | LearnScape: Unveiling education in AR and VR

Group No.:48

Group Members: Sumeet Verlyani, , Mayank Wadhwani, Shubham Chelani,Uday Harisinghani

Mentor: Mrs.Rupali Soni

Abstract: The integration of Augmented Reality (AR) technology has revolutionized the way we perceive and engage with digital content. This abstract presents an innovative concept for an Augmented Reality Enhanced E-Learning Web Application, aimed at transforming traditional online education into an immersive and interactive experience. In this project, Augmented Reality is harnessed to bridge the gap between the virtual and physical worlds, enhancing the learning process by overlaying digital information onto the user's real-world environment. Users will be able to access educational content through a web application that seamlessly integrates AR elements, such as 3D models, interactive simulations, and visual aids, directly into their physical surroundings.

GitHub Repository: [Link](#)

7.19 | BrainScan AI

Group No.:49

Group Members: Aman Kumar, Anchal Sharma, Dhiren Sidhwani, Komal Lund

Mentor: Mrs. Rupali Soni

Abstract: Brain tumor segmentation is one of the most important and difficult issues in

the field of medical image processing, as human-assisted manual classification can lead to erroneous prognosis and diagnosis. Furthermore, it is a huge hassle when there is a huge volume of data to be processed. Brain tumors have a wide range of appearances, and tumor and normal tissues are comparable, making it difficult to isolate tumor regions from images. In this paper, we suggested a method to remove brain tumors from 2D magnetic resonance brain images (MRI).

This research project goes into the creation of a Brain Tumor Detection App that uses artificial intelligence (AI) to improve early detection and treatment outcomes. The app seeks to transform brain tumor diagnosis and treatment by imaging methods with machine learning algorithms. The theoretical underpinnings, approach, difficulties, and possible ramifications of this modern medical application are described in this work.

GitHub Repository: [Link](#)

7.20	ReadWiz - Text Analyzer (Summarizer and Paraphraser)

Group No.:51

Group Members: Manraj Singh Viridi, Nikhil Dhanwani, Chirag Santwani

Mentor: Prof. Manisha Mathur

Abstract:

"ReadWiz" is an innovation in text processing technology, providing a wide range of advanced capabilities adapted to various user requirements. Fundamentally, ReadWiz serves as a powerful tool for summarizing lengthy texts, enabling readers to quickly extract important details and insights. With the use of cutting-edge processing techniques and sophisticated Large Language Model (LLM) algorithms, ReadWiz generates concise overviews while maintaining the essential elements of the original material. ReadWiz is a vital resource for professionals, researchers, and students alike, as it enables users to simply browse through vast amounts of textual material, whether it is academic papers, news stories, or business reports.

In addition to its summarizing skills, ReadWiz offers a robust feature set designed to improve user experience. With an improved user experience and a chat-with-PDF capability, ReadWiz provides a user-friendly text document interaction platform. ReadWiz also provides users with a variety of paraphrase options, allowing them to rewrite text while keeping its original meaning. This feature is helpful for things like writing content, learning a language, and avoiding plagiarism. ReadWiz changes text

processing tools with its simple user interface and robust features, enabling users to quickly and effectively realize the full potential of textual information.

GitHub Repository: [Link](#)

7.21	Sakhi - A woman's friend
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Group No.:53

Group Members: Aanchal Motwani,Nupur Mirani,Darpan Moorpani,Karan Kewalramani

Mentor: Ms Priyanka Shah

Abstract: "SAKHI" is a dedicated online platform designed to cater to the multifaceted needs of women, offering invaluable resources related to safety, rights, and health. With a mission to empower women with knowledge and support, the platform features a robust section on women's safety laws and rights, complete with accessible information and helpline numbers to ensure immediate assistance when needed.

One of the core components of SAKHI is its comprehensive health section, aimed at providing women with a wealth of information and support for various health issues. From reproductive health to mental well-being, users can find expert-curated articles, resources, and tools to navigate their health journey with confidence. A highlight of this section is the intuitive period tracking feature, which enables users to monitor their menstrual cycles, predict upcoming periods, and receive diet suggestions tailored to their menstrual phases.

SAKHI goes beyond mere information dissemination by incorporating interactive elements such as graphs and charts, allowing users to visualize their menstrual data and understand patterns over time. By empowering women with knowledge, resources, and support, SAKHI strives to foster a community where women can take control of their safety, rights, and health, ultimately promoting their overall well-being and empowerment.

GitHub Repository: [Link](#)



4. S.E. PROJECTS

S.E. Project	
1	AI, Deep Learning and Data Warehousing and Mining
1.1	Aspect Based Sentiment Analysis Of Hospital Reviews
Group no: 28	
Goal	GOAL 3: Good Health and Well-being
Group Members : Verliani Jitesh Sunil, Namneet Singh Labana, Anmol Singh Labana, Tharwani Khushi	
Mentor : Mrs. Yugchhaya Galpat	
<p>Abstract: The project delves into hospital reviews to gain insights into patients' sentiments regarding their healthcare experiences. Through sentiment analysis, the team categorizes reviews as positive, negative, or neutral. The methodology involves collecting and preprocessing a dataset of hospital reviews, followed by the application of various sentiment analysis algorithms. Emphasizing the accurate identification of negative sentiments, the researchers prioritize addressing areas for improvement highlighted in negative feedback. Leveraging machine learning and natural language processing techniques, the study aims to provide actionable insights to hospitals to enhance patient satisfaction and refine service quality. Ultimately, the researchers aim to contribute valuable insights to improve patient care, elevate service standards, and cultivate positive patient experiences within hospital settings.</p>	
Github Repository: LINK	
1.2	The Carbon Footprint of Global Tourism
Goal	GOAL 13: Climate Action
Group no: 29	
Group Members: Dipesh Patel, Advay Somani , Parth Takale, Parth Udole	
Mentor: Mrs. Sunita Sahu / Mrs. Yugchhaya Galpat	
<p>Abstract: The growing concern over environmental sustainability has prompted the need for accurate prediction models to assess carbon footprints, particularly in the tourism sector where travel-related emissions contribute significantly. This study proposes the development of a</p>	

machine learning model for predicting carbon footprints attributable to tourism activities. The model incorporates parameters such as distance traveled, number of stops, fuel efficiency, and length of stay of tourists. Three distinct regression models, namely Linear Regression, Random Forest Regression, and Decision Tree Regression, are compared to identify the most accurate predictor. The methodology involves collecting data on tourism-related variables and corresponding carbon footprints. The dataset is preprocessed to handle missing values. Feature engineering techniques are employed to extract relevant information from the input parameters. Each regression model is trained using the training dataset and fine-tuned using cross-validation techniques to optimize performance. The trained models are then evaluated based on metrics such as Mean Squared Error (MSE), and Root Mean Squared Error (RMSE) to assess predictive accuracy. The aim is to develop a user-friendly calculator catered to tourists, providing an estimate of their carbon emissions during trips. Also suggest general sustainable travel practices to minimize their environmental impact. Experimental results demonstrate the effectiveness of the proposed machine learning models in predicting carbon footprints associated with tourism activities. Comparative analysis reveals the model with the highest accuracy, providing valuable insights for decision-making in sustainable tourism management which in this case is a random forest regressor.

Github Repository: [LINK](#)

Awards & Laurels:

1.3	GesSpy: Gesture Detector
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Goal	GOAL 3: Good Health and Well-being
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Group no:16

Group Members: Siddhi Awari, Sri Haritha Movva, Ananya Parthasarathy, Srushti Poriwade, Hainy Chughria

Mentor: Mrs. Nusrat Ansari

Abstract: Various sign language translation technologies are used to ease the work of the sign language interpreters. Laying a stress on this, a real-time sign language detection system has been designed which employs OpenCV, MediaPipe, TensorFlow, Scikit-Learn and CNN to construct a system that accurately detects signs in real-time and further obtains the textual representation of the hand gestures. This system efficiently interprets the hand gestures used by the sign language users and converts it into its relevant text translation. This system is integrated in a web application for more interactive communication. This is done by integrating the Flask web API into

android studio. System exhibits significant accuracy in detecting the gestures appropriately. Envisioning the goal to empower people with disabilities by enabling an inclusive environment. The proposed system is an efficient tool to increase awareness about ISL and enable non-ambiguous interactions between the deaf and hearing community.

Github Repository: [LINK](#)

Awards & Laurels: Winners of Buzz Pro 24 Technical Paper Presentation 3rd Prize

1.4 Fetal Abnormalities Detection

Goal Goal 3: Good Health and Well-being

Group no:

Group Members: Vivek Venkatachalam, Gouresh Madye, Nishika Gangwani, Vaishnavi Sonawane, Aaryan Surve

Mentor: Mrs. Nusrat Ansari

Abstract: Ensuring the well-being of the fetus throughout pregnancy is paramount for effective prenatal care, necessitating the early detection of any potential health disorders. However, conventional methods of monitoring fetal health, such as periodic ultrasound scans and clinical assessments, often suffer from limitations in providing real-time and continuous monitoring. To overcome these challenges, this research presents an innovative framework that harnesses the power of artificial intelligence (AI) algorithms for the early detection of fetal health disorders. Central to our approach is the development of a Foetal Health Disorder Detector, which leverages cutting-edge AI technologies. Our focus lies in analyzing fetal brain ultrasound images, as the fetal brain's development during the second trimester is crucial and abnormalities can have significant implications. By utilizing a Convolutional Neural Network (CNN) model, we propose a sophisticated classification system capable of accurately identifying fetal health status with an impressive accuracy rate of 73.87%. The significance of our research lies in its potential to revolutionize prenatal care by introducing a proactive and precise method for detecting fetal abnormalities at an early stage. By providing clinicians with timely and accurate information, our framework aims to enhance maternal and fetal health outcomes, ultimately contributing to improved prenatal care practices and better overall pregnancy outcomes.

Github Repository: [LINK](#)

2	Application Design and Product Development
2.1	Edusphere: Gayatri Vidyalaya
Group no: 01	
Goal	GOAL 4: Quality Education
Group Members: Soham parab, Vighnarth Nile, Sushanth Shetty, Atharva Sambhaji, Vivek Menghani	
Mentor: Dr. Sharmila Sengupta	
<p>Abstract: Edusphere is a complete school information management solution. Today's schools need to manage more information than ever before. Without a solid internal infrastructure for teachers, headmasters and departments to share data, critical school and student information can be lost, or worse leading to a host of problems that can affect a school's image and endurance. To remain competitive, schools need a simple solution that can run individual functions, connect their entire operation, use the web as a key communication tool and simplify day to day operational responsibilities, giving staff more time with students. Our School automates various scheduling activities of school and optimizes the use of premium resources. Concerned authorities can now easily and seamlessly use the system to create timetables, otherwise a time consuming and tedious task.</p>	
Github Repository: LINK	
Awards & Laurels: Industry Collaboration Project	
2.2	Healthcare Management System
Group no: 02	
Goal	Goal 3: Good Health and Well-being
Group Members: Taniya Vallecha, Simran Godhwani, Nimish Chug, Meet Mattani	
Mentor: Dr. Prashant Kanade	
<p>Abstract: Hospital Management System is a software designed to streamline and automate various administrative, clinical, and operational processes within a hospital or healthcare facility. It aims to enhance efficiency and accuracy by providing features like patient registration, appointment scheduling, medical records management and more. The main objective of the system</p>	

is to minimize the manual work and at the same time increase the speed of work done in hospitals. This system helps healthcare providers to optimize resource utilization and improve communication among different departments, ultimately leading to better healthcare services. To Summarize this system records all interactions of the patient with a health care service provider.

Github Repository: [LINK](#)

2.3	∞ Corridor : Corridor of Infinite Opportunities
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Goal	GOAL 4: Quality Education
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Group no:03

Group Members: Madhura Golatkar, Juhi Birare, Nupur Pathare, Om Patil, Aditi Dubey

Mentor: Dr. Rohini Temkar

Abstract: The gap between talent and opportunity has become a significant challenge in today's fast-paced world. Students face many challenges due to the absence of a centralized and user-friendly platform for finding and joining events, such as disconnection, restricted options and inefficient skill development. ∞ Corridor is a cutting-edge platform revolutionizing how students and professionals engage with educational institutions and corporations. Users can immerse themselves in hackathons, and prestigious IEEE Conferences, fostering creativity, collaboration, and growth. College technical events, internships promote lifelong learning keeping users informed. ∞ Corridor is more than an app; it's a gateway to a future where intellect and curiosity are celebrated, allowing users to shine, connect, and evolve. The app aims to democratize access to opportunities, ensuring individuals from diverse backgrounds could benefit, thus breaking down barriers to inclusivity and accessibility. Our app caters to a diverse range of users, including students interested in hackathons, learners seeking internships and workshops. The app features an intuitive and captivating interface that users can tailor their experience, matching them with opportunities and enhancing their engagement with relevant events. By being available on both iOS and Android devices, the app ensures convenience for users, enabling on-the-go access to valuable educational opportunities. The app was constructed using Flutter and Dart, with Firebase utilized for database management. ∞ corridor app is a centralized platform for event listings, registration, and real-time notifications, fostering a connected community. The app facilitates collaboration between institutions and companies by allowing them to post opportunities and engage with potential students and participants.

Github Repository: [LINK](#)

2.4	Heal It
Goal	Goal 3: Good Health and Well-being
Group no: 04	
Group Members: Simran Karamchandani, Tanisha Pandit, Saniya Dangat, Somya Jain, Mukund Purswani	
Mentor: Dr. Dashrath Mane	
<p>Abstract: Abstract-Emergency response plays a crucial role in preserving precious lives, yet a prominent challenge faced by the country's Emergency Medical Services lies in the delayed arrival of ambulances to patients, reasons of which are discussed further ahead. But the gist of it is that the response time is sub-optimal and the calls are not being attended to. The toll-free number which is available for government-run ambulance services are limited in number and do not cover all aspects of patient transportation; hospital-based ambulances on the other hand are under-utilized. "Heal-It" is thoughtfully designed to enable users to easily book the nearest ambulance online with just a click of a button, catering to both regular patient transportation needs and urgent situations. The user-friendly nature of the app ensures that ambulance booking becomes a hassle-free task, providing a convenient solution for accessing timely assistance when it matters the most. The main objective of this app is to strengthen the Emergency Medical Service by establishing a well-structured and robust system that responds to emergency calls in a rapid and prompt manner.</p>	
Github Repository: LINK	
2.5	Travel Planner Application
Group no: 05	
Goal	GOAL 8: Decent Work and Economic Growth
Group Members: Toshit Durgesh Hole, Shreyas Shankar Bagawe, Jatin Deepak Hargunani, Subodh Ravindra Thalkari, Ravina Vartak	
Mentor: Mrs. Geocey Shejy	
<p>Abstract: The "TravelPlanner" app revolutionizes travel itinerary planning with its integration of real-time weather updates for up to 5 days, flight search capabilities powered by API integration, and a user-friendly "My Trips" section for uploading booked tickets. The app's frontend is</p>	

Android Studio with Java, ensuring a smooth user experience on mobile devices. The app's backend is driven by Node.js, Express.js, and MongoDB, for data management and retrieval. With machine learning models, like price predictor, TravelPlanner assists users in budget planning by forecasting hotel prices based on location and amenities. This feature helps travelers to make informed decisions, enhancing their overall travel experience. TravelPlanner also suggests nearby hotels on flight bookings. With the explained set of features Travel planner stands as a reliable companion for travelers seeking optimized and hassle-free journeys.

Github Repository: [LINK](#)

2.6 | Vanya Sparsh

Group No: 06

Goal | GOAL 13: Climate Action

Group Members: Ritu Ruprela, Roshni Gurbani, Priya Anandani, Raheni Ajwani, Asmi Rajbhar

Mentor: Mrs. Vidya Zope

Abstract: In a world struggling with environmental challenges, our research delves into the intricate web of carbon footprints, focusing on an affecting case study linked to deforestation and its far-reaching impact on climate change. Our project aims to unravel the complexities surrounding the carbon footprint scenario, providing a comprehensive analysis of its implications for our environment. In our pursuit of sustainable goals, particularly in the realm of climate action, Vanyasparsh advocates for a devoted approach to resource utilization. It aligns with the goal of achieving sustainability and a harmonious coexistence with our planet. Key features include educating users about how carbon emissions affect the environment and thus providing ways to help them track their carbon emissions and hence help to reduce deforestation and its side-effects.

Github Repository: [LINK](#)

2.7 | Safar

Group no: 07

Goal | GOAL 8: Decent Work and Economic Growth

Group Members: Parul Wanode, Madhura Anerao, Riya Firke, Pranita Bannore, Tarunkumar

Gatla	
Mentor: Mrs. Vidya Zope	
<p>Abstract: Our desktop app 'Safar' is your gateway to a world where history comes to life, offering an unparalleled heritage tourism experience that unveils the secrets, stories, and treasures of generation's past.</p> <p>Our app is a bridge that joins India's hidden gems and iconic landmarks, each bearing witness to the legacy of civilizations that have shaped its character to the modernized society willing to learn more about our ancient history. Our app gives you the benefit to reminisce about your trip through our blogs which are publicly visible for all travel enthusiasts, as well as your current location as you step across the monuments. It encourages locals to rise to the power of established startups by sharing their art and talent with the world. Our app will turn a boon to the historians and travel enthusiasts and also to the local businesses who have been gifted with a platform to sell their artifacts and merge to the rising economy of our country. The main aim of this app is to take your heritage exploration with downloadable maps, stories, guides, blogs and local vendors. Never miss a moment to delve into the past, even in areas with limited connectivity, through our heritage tourism app.</p>	
Github Repository: LINK	
2.8	FarmCart
Group no:08	
Goal	GOAL 9: Industry, Innovation and Infrastructure.
Group Members: Chetan Narang, Hannan Chougale, Manit Khira, Sanchet Khemani, Om Goplani	
Mentor: Mrs. Indu Dokare	
<p>Abstract: In the current era, e-commerce platforms have reshaped the landscape of various industries. The agricultural sector is no exception to this transformative trend. 'FarmCart' is a web-based platform that embodies the spirit of technological advancement to bridge the gap between local farmers and consumers by providing a direct channel for agricultural product transactions. 'FarmCart' is designed with a user-centric approach to ensure an intuitive and seamless shopping experience for consumers. Furthermore, it offers the functionality of a dynamic shopping cart, facilitating the addition and removal of products, accompanied by real-time updates of the cart's contents. The user's cart is preserved in the platform's database, guaranteeing data integrity and persistence. The project extends its utility with the incorporation of a Frequently</p>	

Asked Questions (FAQ) section, providing users with essential information on how to utilize the platform effectively, thereby enhancing the user experience.

Github Repository: [LINK](#)

2.9 Intelligence Scholarship Program(ISP)

Group No. 09

Goal GOAL 4: Quality Education

Group Members: Kushl Ashutosh Alve, Neelkanth Rajesh Khithani, Shivam Sunil Choubey, Vedang Vinod Gambhire, Atharva Hande

Mentor: Mrs. Lifna C S

Abstract: As a part of the Digital India Initiative, the Government of India provides various services to the citizens. National Scholarship Portal is one among them, which focus on ensuring quick process of Government Scholarships to the needy students. Through this portal, students can apply only for Government Scholarships. For private scholarship one needs to apply separately to the individual organization, online or offline. So, the needy students are in a dilemma in search for these Scholarship Organizations and their deadline. The proposal is to integrate an Intelligent Scholarship Disbursement Module into the current National Portal, by incorporating both Government and Private Scholarship Organisations. The proposed module automates the entire Scholarship Process using the Aadhaar number by which the student registers with the Portal. The revamped Portal aims to relieve students from the financial insecurity which they experience during their studies and focus on studies.

Github Repository: [LINK](#)

Awards & Laurels: Winners of Buzzpro'24 Technical Paper Presentation(Ist Prize)

2.10 TravelHub: Your Journey, Your Way, Our Expertise

Group no: 10

Goal GOAL 8: Decent Work and Economic Growth

Group Members: Anisha Shankar, Himaja Pannati, Wafiya Shaikh, Samruddhi Jatkar, Santosh Hinduja

Mentor: Mrs. Abha Tewari	
<p>Abstract: Travelhub is a novel platform designed to simplify travel planning by providing a user-friendly interface exclusively for travel agencies to showcase their diverse itineraries. With features such as reviews and galleries, Travelhub streamlines the process of discovering, planning, and booking travel adventures. This platform caters to travelers seeking guided tours, beach getaways, cultural explorations, and more, offering a hassle-free experience. By connecting travelers with a wide range of travel agencies, Travelhub ensures that users can easily find and book their ideal travel experiences. With its intuitive design and comprehensive features, Travelhub revolutionizes the way travelers explore the world.</p>	
Github Repository: LINK	
2.11	RAILEASE: Railway Concession Automation At VESIT
Group no: 11	
Goal	Goal 8: Decent Work and Economic Growth
Group Members: Tejas Mahesh Gadge, Deepak Pandharinath Kumbhar, Ganesh Ankush Shelar, Vedant Sameer Mhatre, Ummulkiram Mahuvawala	
Mentor: Mrs. Mannat Doultani	
<p>Abstract: The "RAILEASE-Railway Concession Automation " is basically for simplifying the process of applying for and availing railway concession at VESIT by creating a mobile application. This app design project leverages the powerful design and development tools, Figma and Flutter, to create an intuitive and visually appealing platform independent interface for users to seamlessly navigate through the concession application process. The primary objective of this project is to offer a comprehensive solution that addresses the challenges faced by students in order to get student railway concessions at the college. The Railway Concession App will ease the application process, reduce paperwork, and enhance the user experience by providing a digital platform to request and obtain railway concessions.It will provide time to time notification to users.</p>	
Github Repository: LINK	
Awards & Laurels: Winners of Buzzpro'24 Technical Paper Presentation(Best Presentation)	

2.12	GateGaurdian (Residential Entry Logging System)
Group no: 12	
Goal	Goal 11: Sustainable Cites and Communities
Group Members: Mohit Vaidya, Ved Waje, Abhirat More, Joel Dias, Vidhit Navani	
Mentor: Mrs. Mannat Doultani	
<p>Abstract: GateGuardian is a sophisticated security login application, purpose-built for efficient building access control. At its core, it is designed to bring a new level of security and convenience to building premises. By implementing an advanced authentication system and different modules, the app offers a reliable and user-friendly approach for authorized individuals to access the building. With this application, the process of managing access becomes streamlined and seamless. Authorized personnel can effortlessly enter the building premises, confident in its robust security measures that prevent any unauthorized entry attempts. This not only enhances the overall safety of the building occupants and valuable assets but also instills a sense of confidence in the security protocols. GateGuardian stands as a testament to modern security solutions, providing a reliable, efficient, and secure means of managing building access. It's an innovative tool that contributes to the peace of mind of residents, building administrators, and anyone who values a safe and controlled environment. This project shows that new methods can change how we manage building access for the better.</p>	
Github Repository: LINK	
2.13	Airaware (Real-Time Weather and Pollution Insights)
Group no:13	
Goal	Goal 13: Climate Action
Group Members: Aadil Shah, Anusha Gonal, Thozhuvathinkal Jennifer Cheriyan, Mayuresh Gujare, Vedant Navani	
Mentor: Mrs. Pallavi Gangurde	
<p>Abstract: In a world where pollution is a growing threat to our well-being, our website AirAware offers valuable assistance for medical purposes, aiding individuals with respiratory diseases, those considering relocation, and those seeking pure air environments. Our dynamic website utilizes real-time data of Air Quality Index (AQI) -a standardized measure used worldwide to assess air quality levels, to provide up-to-the-minute environmental insights for</p>	

cities across India. Beyond just data, our platform goes the extra mile. Users can input their city and respiratory condition, enabling them to access information on whether the city is safe for them in terms of air quality. This helps the user to make informed decisions about their health and well-being. This user-friendly feature empowers individuals to determine if it's safe to travel or relocate based on prevailing air quality conditions. By emphasizing the application of AQI information for medical purposes and catering to individuals with respiratory diseases, our platform ensures that health remains a top priority. Whether it's for medical concerns, relocation plans, or simply seeking cleaner air, our project offers a valuable resource for individuals navigating India's environmental landscape.

Github Repository: [LINK](#)

2.14 TaxSarathi

Group no: 14

Goal Goal 16: Peace and Justice Strong Institutions

Group Members: Gautam Rai, Chinmay Desai, Yash Ingale, Harsh Pimparkar, Rohit Motwani

Mentor: Mrs. Pallavi Gangurde

Abstract: Indian taxation presents challenges for both experts and educated individuals due to its complexity, confusing government websites, and a lack of financial awareness. Addressing these issues is "TaxSarathi," an online platform designed to simplify the Indian taxation process for professionals, students, and entrepreneurs, promoting financial empowerment. TaxSarathi provides a straightforward, step-by-step interface for individuals, regardless of their financial knowledge, to confidently navigate the tax filing process. Beyond its practical utility in tax filing, TaxSarathi stands out as an exceptional educational resource. Using plain language and engaging visuals, it disseminates crucial knowledge about various tax types, regulations, deductions, and exemptions. This approach equips users with the foundational understanding necessary for making well-informed financial decisions and optimizing tax planning strategies. The platform not only simplifies the path to tax compliance but also empowers users to confidently engage with their financial responsibilities, contributing to financial well-being and literacy. By offering a holistic solution that combines user-friendly tax filing features with educational resources, TaxSarathi strives to make the often daunting realm of Indian taxation more accessible for everyone.

Github Repository: [LINK](#)

2.15	Craftopia
Group no:15	
Goal	GOAL 8: Decent Work and Economic Growth
Group Members: Kareena Lachhani, Nishika Ahuja, Gayatri Wadhwani, Simran Gurdasani, Honey Kundala	
Mentor: Mrs. Pallavi Gangurde	
<p>Abstract: In the ever-evolving landscape of artistic expression and technological innovation, Craftopia stands out as a dynamic online marketplace, redefining how artisans and artists connect with a global audience. Craftopia is not just a platform; it's an enchanting space dedicated to showcasing and celebrating the pinnacle of handmade art and craft creations. Immerse yourself in a world where artisans and craft enthusiasts unite to share their unique talents. Discover meticulously crafted treasures, from personalized gifts to stunning home decor, and support the magic of handmade excellence. Craftopia is where every creation tells a story, and every purchase supports the spirit of creativity and craftsmanship. This harmonious fusion of artistry and technology has revolutionized the way artisans showcase their skills, transforming Craftopia into a thriving hub where the intersection of art and technology defines the digital age. Join Craftopia - where the magic of handmade meets the innovation of the digital era.</p>	
Github Repository: LINK	
2.16	Attendance Management System
Group no: 18	
Goal	GOAL 4: Quality Education
Group Members: Shaanveer Singh, Prem Ghundiyaal, Atharva Deore, Ronak Ajwani, Aiman Dabir	
Mentor: Mrs. Sunita Suralkar	
<p>Abstract: The "Attendance Management System" is a modern and streamlined project aimed at automating and simplifying attendance tracking in educational institutions and organizations. It leverages the Django web framework to create an accurate, secure, and efficient system that overcomes the challenges associated with manual attendance recording. Traditional manual attendance tracking methods are prone to errors and inefficiencies. The system's adoption of the Django framework ensures adaptability to specific organizational needs and user-friendliness.</p>	

Instructors can mark attendance easily, access real-time updates, and generate customized reports, while students gain immediate access to their attendance data. In summary, the "Attendance Management System" revolutionizes attendance tracking, eliminating manual errors and enhancing data accessibility through its innovative use of Django.

Github Repository: [LINK](#)

2.17 QuickFixx: Professionals at your doorstep

Group no: 19

Goal Goal 9: Industry, Innovation and Infrastructure

Group Members: Sarang Vivek Pavanaskar, Tanmay Goutam Maity, Akshat Gurudas Mahajan, Harsh Rajendra Saindane

Mentor: Ms. Sunita Suralkar

Abstract: QuickFixx addresses the challenge of efficiently accessing essential services in tier 2 and tier 3 cities through a mobile application. Utilizing Kotlin Jetpack Compose for frontend and Spring Boot with Firebase for backend support, the app connects users with local service providers like carpenters and plumbers. Key functionalities include user authentication, service selection, provider profiles, and real-time communication, emphasizing simplicity and user experience. The app aims to bridge the gap between users and unorganized service businesses, streamlining the process of accessing essential services. Future enhancements include advanced navigation, live tracking, payment gateway integration, and image uploading for precise task descriptions. Prioritizing empowerment and local business support, QuickFixx strives to foster economic growth and connectivity. Aligned with the sustainable goal of Industry, Innovation and Infrastructure, this project contributes to creating a more connected and accessible digital environment for communities.

Github Repository: [LINK](#)

2.18 Sport Sphere 360

Group no: 20

Goal Goal 3: Good Health and Well-being

Group Members: Mayank Santosh Wankhede, Atharv Hanmant Inamdar, Kaivalya Rajendra

Patil, Puneet Singh Kewalramani	
Mentor: Mrs. Rupali Soni	
<p>Abstract: Sportsphere 360 is a website whose goal is to offer you a platform where you can cater to your preferences. Imagine a lively homepage, your central hub for staying up-to-date on all things about sports. We've carefully organized dedicated sections for various sports, ensuring that you can easily access the latest news, analysis, and highlights that match your interests. Our commitment spans across borders, as we take pride in bringing you sports coverage from every corner of the globe. Whether you're a passionate sports enthusiast or just seeking entertainment, Sportsphere 360 stands as your ultimate go-to source for all things about sports.</p>	
Github Repository: LINK	
2.19	Nishulkh Bhojan Seva
Group no: 21	
Goal	Goal 2: No Hunger
Group Members: Jiten Purswani, Maanav Valecha, Aum Bhambhani, Srimathi Srinivasan	
Mentor: Mrs. Rupali Soni	
<p>Abstract: Levels of food insecurity are constantly on the rise due to various reasons such as economic disparity, severe climate change, inadequate public policies, impact of the pandemic. This project is regarding a web application Nishulkh Bhojan Seva (NBS) which is a solution towards eliminating food waste and food insecurity. The website provides a platform for donors (individuals and food partners such as restaurants, grocery stores), volunteers and NGOs. This website is an approach concurrent with the UN Sustainable Development Goal 2 - Zero Hunger. This website functions as a redistribution outlet for excess food and curtails the production of food waste. It will act as a sustainable, open, and accessible platform having adequate verification measures and databases which will provide a tailored experience for the different types of users</p>	
Github Repository: LINK	
Awards & Laurels:	
2.20	AI based Music Generator: TarangAI
Group no: 22	

Goal	GOAL 9: Industry, Innovation and Infrastructure
Group Members: Mrunal Mahajan, Ayush Verma, Latish Adwani, Vineet Chelani	
Mentor: Mr. Sanjay Mirchandani	
<p>Abstract: AI based Music Generator: TarangAI, an innovative venture leveraging Python's power for audio processing and MIDI file analysis. TarangAI showcases a suite of meticulously crafted algorithms catering to a spectrum of tasks, from fundamental audio manipulations to intricate MIDI data interpretation. Model contain Python-based algorithms covering audio convolution, mixing, melody generation, frequency extraction, and the generation of mixed audio signals with random notes. These algorithms, harnessing libraries like PrettyMIDI, TensorFlow, NumPy, and Pandas, provide a robust toolkit for analyzing, visualizing, and synthesizing audio and MIDI data, facilitating research in music analysis and composition. Moreover, Tarang AI's endeavors extend to refining LSTM models for more effective music note generation, demonstrating a commitment to enhancing AI-driven music composition.</p>	
Github Repository: LINK	
2.21	Plant Disease Classification using Machine Learning Algorithms
Group no: 23	
Goal	GOAL 9: Industry, Innovation and Infrastructure
Group Members: Kedar Kate, Darshan Kakad, Jenny Lalwani, Vansh Nenwani	
Mentor: Mr. Sanjay Mirchandani	
<p>Abstract: This study investigates the efficiency of machine learning (ML) algorithms for plant disease classification using manually created datasets comprising leaf images. By implementing image processing techniques with ML, the project aims to streamline and automate disease diagnosis processes. Using Gray Level Co-Occurrence Matrix (GLCM) for feature extraction and employing classifiers such as K-Nearest Neighbors (KNN), Support Vector Machines (SVM), Random Forest, and Light Gradient Boosting Machine (GBM), the system endeavors to accurately discern plant diseases based on visual symptoms captured through digital imagery. The framework encompasses distinct layers: an Input Layer for receiving plant disease images, a Preprocessing Layer for standardizing image attributes, a Feature Extraction Layer using GLCM for texture information extraction, a Training Layer for model optimization and training, a Classification Layer for predicting disease classes, and an Evaluation Layer for assessing model performance.</p>	

Github Repository: LINK	
2.22	Child Vaccination Management System
Group no:24	
Goal	GOAL 3: Good Health and Well-being
Group Members: Aaditya Amul Raikar, Varun Avinash Budhani, Yash Pradeep Jha, Shantanu Bhosale	
Mentor: Mrs. Sujata Khandaskar	
<p>Abstract: The Indian Child Vaccination Status system is a strategic and technologically advanced platform designed to address the intricate landscape of child vaccination across the country but keeping a record of who is vaccinated and who is not by the local hospitals and private doctors which is still done manually also there are many places which are not easily accessible, and the people there are still scared of vaccines. The main aim of building our project is to efficiently handle data related to children's vaccination status as well as to track efficiency of the health care workers .It outlines a user-friendly system that manages crucial information, including vaccination schedules, doses administered, and healthcare professional details. By integrating secure databases, this system ensures accurate tracking and seamless communication between parents and healthcare providers. With a focus on accessibility and data integrity, the Child Vaccination Management System aims to enhance the overall efficiency of pediatric healthcare, promoting a proactive approach to child immunization.</p>	
Github Repository: LINK	
2.23	Medical Diagnosis
Group no:25	
Goal	GOAL 3: Good Health and Well-being
Group Members: Eshan Vijay, Atharv Vishwas Shinde, Rahul Dudani, Devansh Joshi	
Mentor: Mrs. Sujata Khandaskar	
<p>Abstract: In today's digital age, access to reliable and accurate medical information is paramount for individuals seeking to understand their health concerns. However, the internet is flooded with</p>	

a vast array of medical content, making it challenging to discern accurate information from misleading or incomplete sources. This abundance of information, coupled with the prevalence of misinformation, creates a pressing need for a trustworthy platform that offers accessible and reliable medical diagnosis guidance. Our Medical Diagnosis website is an online platform designed to provide users with accessible and informative health information. The website offers a user-friendly interface, facilitating easy navigation and efficient retrieval of relevant medical content. It incorporates a symptom checker tool, allowing users to input their symptoms and receive potential diagnoses based on an extensive database of symptoms and associated conditions. The website strives to be a convenient and accessible platform for individuals in search of trustworthy health information. With a focus on accessibility and data integrity, The Medical Diagnosis Website aims to serve as a valuable resource for individuals seeking reliable health information.

Github Repository: [LINK](#)

2.24 | **TechnoProbe: A career guide**

Group no:26

Goal | **Goal 4: Quality Education**

Group Members: Sandeep Jagdale, Ammar Ansari, Prashant Barai, Sumeet Janyani

Mentor: Mrs. Sujata Khandaskar

Abstract: In a rapidly evolving digital landscape, the project "TechnoProbe: A Career Guide" emerges as a transformative solution to address the complexities and challenges of career development, education, and skill enhancement. With the aim of simplifying the career journey, this project integrates a diverse range of modules, offering a unified platform for students, researchers, and professionals. Motivated by the fragmented nature of current educational and professional platforms, "TechnoProbe" seeks to empower individuals by streamlining their exploration, internship searches, and career advancement. Real-time updates keep users informed about job openings and industry trends, while meaningful interactions are fostered through dynamic communities. Personalization is a core feature, providing tailored recommendations and insights to users, ensuring their journey aligns with their unique career aspirations. The platform promotes interdisciplinary collaboration, enabling users from different domains to engage in discussions and research groups. "TechnoProbe" also offers a deep dive into company profiles, providing comprehensive information about job vacancies and internship opportunities. The project embraces community-based learning, creating a hub for collaborative knowledge sharing through questions and answers. Simplifying the learning process, "TechnoProbe" provides

structured learning paths, reducing confusion and information overload. By uniting these features under one digital roof, the project aims to revolutionize the career development landscape and empower individuals to take control of their professional journeys. This project is not just a website; it's a vision, a dynamic knowledge-sharing ecosystem that guides individuals toward success in an interconnected world.

Github Repository: [LINK](#)

2.25 | **Online creativity portfolio**

Group no:27

Goal | **GOAL 4: Quality Education**

Group Members: Ekta chhabria, Taniya Gerela ,Aanchal galani, Priya basrani

Mentor: Mrs. Sunita Sahu / Mrs. Prerna S

Abstract: In the rapidly evolving digital landscape of the 21st century, the concept of an online portfolio has transcended its traditional role as a mere showcase of one's work. It has transformed into a dynamic and multifaceted platform for artistic expression and exploration, reflecting not just an individual's creative achievements but also their evolving skills and competencies. This evolution has ushered in an era where an online portfolio serves as both a personal journey of artistic growth and a communal hub for engaging with emerging art forms and like-minded individuals. At the forefront of this transformative shift stands Artscape, a groundbreaking online portfolio platform that is redefining how we present and interact with artistic endeavors. Artscape doesn't merely offer a static repository for an artist's work; it provides a fully personalized digital gallery, a canvas of boundless possibilities. This platform empowers artists of all kinds, from visual artists to digital creators, to not only showcase their projects but to share their expertise, connect with patrons, and collaborate with fellow artists and enthusiasts. Artscape's mission is bold and ambitious. It aspires to empower artists in unprecedented ways by expanding their reach beyond geographical boundaries. It envisions a world where digital art exhibitions transcend traditional physical constraints, making art accessible to individuals from diverse backgrounds and corners of the globe. Artscape is more than just a platform; it's a catalyst for democratizing the world of art. By utilizing Artscape as a digital canvas, individuals enhance their professional presence in the digital realm. This platform allows artists to curate their own narrative, to showcase their growth and versatility over time. It is a testament to the evolving nature of art itself, as artists engage in a continuous process of creation and reinvention. Artscape helps artists to not only exhibit their work but also to discover new art forms and unlock a world of opportunities that extend far

beyond the boundaries of their local art scene. Ultimately, Artscape aims to leave a lasting virtual impression, not only on the artists who use it as a platform for self-expression and growth but also on the audience it attracts. It fosters a sense of connection, understanding, and appreciation for the world of art, a world that has the power to inspire, transform, and unite people from all walks of life. Artscape is not just a digital platform; it is a testament to the boundless nature of human creativity and the possibilities that emerge when art and technology converge in a way that is truly transformative.

Github Repository: [LINK](#)

2.26 | **TRELDER: Ease of Traveling for elders**

Group no:30

Goal | **Goal 11 Sustainable Cities and Communities**

Group Members: Jay Dadlani , Vikalp Bora, Priyanka Jotwani, Krish Bhatia

Mentor: Mrs. Yugchhaya Galpat

Abstract: "Trellder," a dedicated tourist website designed to provide a seamless and enriching online experience for older travelers. The website's primary focus is to accommodate the unique requirements and interests of seniors, ensuring their participation in the digital travel realm. "Trellder" acknowledges the diverse abilities and preferences of older users, offering a user-friendly interface. The website features curated travel destinations and experiences that align with the interests of seniors, including historical landmarks, cultural sites, and serene natural settings. And a special feature which will help promote elderly tourism is, by providing the tourists with a companion, who would accompany them throughout their journey and help them have a merrier and safer tour.

Github Repository: [LINK](#)

2.27 | **Kisan Sevak:- Data Driven Agriculture for Optimal Yields and Product Procurement**

Group no:31

Goal | **GOAL 12: Responsible Consumption and Production**

Group Members: Shreerang Vaidya, Jatin Navani, Anjali Thakrani, Samarth Nilkanth

Mentor: Mrs. Yugchhaya Galpat	
<p>Abstract: In the current digital era, despite advancements in technology, traditional farming methods persist among farmers. An innovative application of machine learning is introduced, reshaping pivotal aspects of farming practices. A comprehensive exploration of predictive modeling within the realm of appropriate crop production according to soil and environmental conditions is presented. Random Forest are employed for precise regression, Support Vector Machines (SVM) for fine-tuned crop classification, and Long Short-Term Memory (LSTM) networks for nuanced price prediction. This project contributes to sustainable agricultural intensification. The model centers around different information and procedures utilized, like nitrogen, phosphorus, and potassium values, to know the soil's health and anticipate future harvests, along with reasonable information calculations using historical data of the particular location. In essence, the primary focus is on the digitization of the farming industry. Through the amalgamation of machine learning models and data-driven approaches, this project strives to bring about a fundamental shift in the traditional practices of agriculture, and thus will pave the way for the adoption of these prediction models all over India.</p>	
Github Repository: LINK	
Awards & Laurels: Winners of Buzzpro'24 Technical Paper Presentation(IInd Prize)	
2.28	Food Saver : Nourishing Communities reducing wastes
Group no:32	
Goal	Goal 2: Zero Hunger
Group Members: Duseja Ayush Ramkumar, Chaudhari Soham Rajendra, Pathrabe Sujal Vijay, Vidhani Harsh Sanjay	
Mentor: Mrs. Yugchhaya Galpat	
<p>Abstract: In response to the critical issue of food wastage and the pressing need to make less severe hunger among the less fortunate, we are developing a website that serves as a platform to bridge the gap between donors with surplus food and individuals or communities in need. Through user friendly interfaces, donors can easily register and post details about their surplus food, whether it be leftovers from home, events, functions, or hostel kitchens. These listings are then made visible to individuals or organizations (or volunteer), and according to the location and availability one can make request for the site. This platform ensures transparency and accountability by implementing features such as user ratings and reviews, as well as secured information of an individual personal details In addition to this, the website aims to raise</p>	

awareness about food waste and hunger- related issues through educational resources, impactful stories, and community engagement initiatives. To sum-up with, This website harnesses the power of technology to facilitate the redistribution of surplus food, thereby addressing food wastage while simultaneously combating hunger and promoting social solidarity.

Github Repository: [LINK](#)

2.29 Quiz Orbit

Group no: 33

Goal GOAL 4: Quality Education

Group Members: Rishi Daryani, Yash Janyani, Tarun Gulwani, Dhruv Chatrani

Mentor: Mrs. Pallavi Saindane

Abstract: QuizOrbit is an engaging educational website designed for children aged 6 to 8, offering interactive learning experiences to prepare them for Olympiad MCQ exams. With its user-friendly interface and vibrant design, QuizOrbit provides accessible access to a diverse range of subjects including Mathematics, Science, English, and General Knowledge. Through interactive quizzes and games, children can reinforce their knowledge while developing critical thinking and problem-solving skills in a fun, gamified environment. The website features progress monitoring tools for parents and educators, allowing them to track children's performance and customize learning paths accordingly. With dedicated resources for both parents and educators, QuizOrbit promotes collaborative learning and parental engagement, fostering academic growth and a love for learning among children.

Github Repository: [LINK](#)

2.30 Schedule management system

Group no:34

Goal GOAL 4: Quality Education

Group Members: Rohit Shahi, Umesh Tolani, Rithik Chawla, Aditya Ajith

Mentor: Mr. Richard Joseph

Abstract: The Student Management System (SMS) built with Django is a web application tailored to streamline educational administrative tasks. It offers secure user authentication and role-based access, enabling administrators, teachers, and students to interact efficiently. Core features include student profile management, course and curriculum administration, attendance tracking, grading, and communication tools. The system emphasizes simplicity and functionality, providing a centralized platform for managing academic processes and fostering collaboration among stakeholders. With its intuitive interface and comprehensive capabilities, the SMS aims to enhance operational efficiency and facilitate informed decision-making within educational institutions.

Github Repository: [LINK](#)

Awards & Laurels:

2.31	Constructive material assessment and evaluation for residence development
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Group no:35

Goal	Goal 13: Climate action
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Group Members: Himanshu Menghrajani, Shreya Chhatwani, Angad Bulani, Sahil Ahuja

Mentor: Mrs. Veena Trivedi

Abstract: Housing is one of the most important life components giving shelter, safety and warmth, as well as providing a place to rest. There is a lack of unified definition for housing concept in India. The aim of the study is to explore user-selected areas to develop diverse housing typologies that cater to various needs, lifestyles and preferences through a combination of spatial analysis of demographic research and architectural design principles. The project aims to propose an adaptable and sustainable housing solution tailored to the unique characteristics of the chosen region. The study seeks to enhance community engagement and inclusivity while fostering a sense of place and identity within the built environment.

The objective is to furnish individuals with tailored recommendations for construction materials based on the specific requirements and regulations of their respective states.

Github Repository: [LINK](#)

2.32	FusionXperience
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Group no:36

Goal	Goal 8 : Decent work and economic growth
Group Members: Gopal Vanjarani, Gaurav Mahadeshwar, Ved Shirur, Aditya Joshi	
Mentor: Mrs. Veena Trivedi	
<p>Abstract: FusionXperience is truly a game-changer in the realm of event management, ushering in a wave of innovation with its user-centric approach and advanced features. Picture this: you, as an event enthusiast, are welcomed into a world where organizing and attending events becomes a seamless journey. The platform introduces a user login authentication system that feels like a warm embrace, effortlessly allowing you to book and manage multiple events, all securely stored in your personalized haven.</p> <p>Imagine having a reliable companion in the form of a robust database that diligently retains your information for future events. It's like having a personal assistant, ensuring your preferences and details are readily available at your fingertips. FusionXperience is not just about streamlining the event management process; it's about creating a bond between technology and user convenience, making your journey through the world of events truly enjoyable.</p> <p>As you delve into this new era of event planning, you'll find that FusionXperience isn't just a platform; it's a partner in crafting memorable experiences. Organizers, vendors, and attendees alike are brought together seamlessly, thanks to an integrated system that reshapes the traditional event management landscape. In this human-centric approach, FusionXperience becomes the bridge between your vision and the reality of an unforgettable event, where every detail is thoughtfully considered to enhance your overall experience.</p>	
Github Repository: LINK	
2.33	NFC- A Digital Contact Card
Group no:37	
Goal	Goal 9: Industry, Innovation and Infrastructure
Group Members: Yashkumar Sajda, Ritik Shetty, Shivam Pandey, Jassimraja Mujawar	
Mentor: Mrs. Veena Trivedi	
<p>Abstract: Near Field Communication (NFC) contact cards have emerged as a versatile and efficient means of seamlessly connecting the physical and digital realms. This paper explores the key aspects of NFC technology and its applications in contact cards. We delve into the underlying principles of NFC communication, highlighting its short-range, wireless capabilities that enable swift data exchange between devices. The integration of NFC into contact cards revolutionizes</p>	

traditional business and personal interactions. These cards, equipped with NFC chips, facilitate instant information transfer by simply tapping or bringing them into proximity with compatible devices. This paper investigates the advantages of NFC contact cards, such as enhanced security through encryption and authentication protocols, as well as the convenience of quick data sharing without the need for physical contact.

Github Repository: [LINK](#)

2.34 Brain Peace - Mental Health Awareness

Group no:38

Goal Goal 3: Good Health and Well-being

Group Members: Karan Vinod Bhatia, Piyush Mahesh Nagrani, Harsh Navin Ahuja, Nickhil Shivakumar

Mentor: Mrs. Perna Solanke

Abstract: Brain Peace is a comprehensive mental health awareness website designed to educate individuals about various mental health issues and provide resources for addressing them. The platform offers a diverse range of sections and features to engage users, including informational articles, interactive tools, and community forums. By promoting understanding and destigmatizing mental health challenges, Brain Peace aims to empower individuals to prioritize their mental well-being and seek support when needed. Through its user-friendly interface and extensive content, the website serves as a valuable resource for fostering a culture of mental health awareness and resilience.

Github Repository: [LINK](#)

Awards & Laurels:

2.35 TheLegalHub - A digital domain for legal resources

Group no:39

Goal Goal 16: Peace, Justice, and Strong Institutions

Group Members: Nitika Nagdevani, Vedika Walhe, Sanika Ingale, Ishwari Dehadray

Mentor: Mrs. Perna Solanke

Abstract: Law students and other law practitioners need a comprehensive resource platform to find information with ease and thus save time. TheLegalHub aims to achieve the same. A common problem for law practitioners is the difficult accessibility of the various document formats needed. Law involves a significant amount of reading and research. Law students must grapple with extensive case law, statutes, regulations, and legal texts, which can be overwhelming. Apart from this, legal texts can be challenging to read especially for newcomers to the field. Translating theoretical scenarios can be difficult. Understanding how legal principles apply to real cases and situations is perplexing at times. The website counters all these issues by providing the various laws passed along with the previous cases in association with each other as well as the document formats. This platform encompasses a dedicated section where users can seamlessly locate legal professionals and schedule appointments, streamlining the process of seeking legal assistance. Additionally, TheLegalHub features an interactive chatbot programmed to address inquiries related to various legal matters, ensuring prompt and accurate responses to user queries.

Github Repository: [LINK](#)

2.36 DestinationAnywhere

Group no:40

Goal GOAL 8: Decent Work and Economic Growth

Group Members: Samiksha Nikam, Laveena Mirani, Diya Zambani, Viral Somani

Mentor: Mrs. Perna Solanke

Abstract: In the contemporary era, travel management websites have emerged as indispensable tools, revolutionizing the way individuals and organizations plan and execute their journeys. This report delves into the pivotal role of these platforms and the integration of analytical methods in comprehending and optimizing travel experiences.

The objective of this report is to offer an encompassing insight into the applications of analytical thinking within the realm of travel management. We explore how conceptual analysis techniques and innovative applications are transforming the landscape of travel organization. Features like trip planning, booking, and expense tracking are streamlined through advanced algorithms and data-driven insights.

A fundamental aspect of this report is the examination of the interplay between visual recognition and sentiment analysis, pivotal in understanding the significance of travel management in terms of personalized recommendations, user engagement, and content optimization. Visual recognition techniques empower users to identify destinations, accommodations, and activities, providing a

contextual dimension to their travel plans. Simultaneously, sentiment analysis helps in gauging the emotional dimension, categorizing feedback as positive, negative, or neutral, thereby enhancing the overall travel experience.

The utility of descriptive and emotional analysis transcends the boundaries of travel management, extending to domains like customer satisfaction, predictive trends, and risk mitigation. Real-world examples showcase travel management websites, travel agencies, and researchers harnessing these cutting-edge technologies to decipher user preferences, enrich decision-making, and ensure a secure and delightful travel environment.

In conclusion, this report underscores the pivotal role of travel management websites in modern travel experiences and underscores the integration of analytical techniques as a catalyst for enhancing the quality and safety of travel. The application of these insights has far-reaching implications, extending beyond individual travelers to businesses and organizations that depend on efficient and effective travel management.

Github Repository: [LINK](#)

2.37	LearnWit
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Group no:41

Goal	Goal 4:Quality Education
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Group Members: Suryanarayan Panigrahy, Gaurav Gupta, Hemant Satam, Harsh Patil

Mentor: Mrs. Manisha Mathur

Abstract: LearnWit is an E-learning quiz website strategically crafted with the intent to captivate learners by providing interactive quizzes within an user-friendly interface. The primary objective of this platform is to facilitate learning through an aesthetically pleasing layout, thereby transforming the educational process into an engaging and enjoyable experience for users. Users have the opportunity to explore quizzes on various subjects, each accessible at different difficulty levels, thereby catering to learners of all proficiency levels. Furthermore, the website has a wide array of quizzes encompassing diverse subjects, ensuring that users of varying expertise levels – from beginners to experts – find content suitable for their learning needs. Additionally, LearnWit offers insightful analyses of users' knowledge across different subjects, empowering them to understand their strengths and areas requiring further improvement. Through the integration of features such as multi-topic quizzes and scoring mechanisms, the platform ensures that learners remain motivated and focused throughout their educational journey. Moreover, LearnWit

prioritizes user engagement and satisfaction by crafting a seamless educational experience that seamlessly blends informative content with interactive elements. Leveraging the power of HTML, Bootstrap, CSS, JavaScript, and MongoDB, LearnWit provides a robust framework for analyzing knowledge in a visually stimulating manner, thereby enhancing the overall learning experience for users.

Github Repository: [LINK](#)

2.38 | **HemaLink:Connecting Lifesavers!**

Group no:42

Goal | **GOAL 3: Good Health and Well-being**

Group Members: Rahul kithani, Manish motwani, Mohit advani, Varun dulani

Mentor: Mrs. Manisha Mathur

Abstract: Hemalink will be a comprehensive online platform designed to foster a seamless connection between blood donors, blood recipients, and medical professionals. Our platform will act as a vital bridge, enabling efficient communication and collaboration among these crucial stakeholders. Donors can easily register and find opportunities to contribute, while recipients gain access to a network of potential donors in times of need. With medical practitioners integrated into the system, the platform will ensure safe and timely transfusions, fostering a dynamic ecosystem that saves lives. Hemalink will serve as a beacon of hope, uniting donors, recipients, and doctors in the shared mission of sustaining and improving lives through the gift of blood.

Github Repository: [LINK](#)

Awards & Laurels:

2.39 | **AlumBridge - "Empowering Futures Together"**

Group no: 43

Goal | **GOAL 8: Decent Work and Economic Growth**

Group Members: Garv Chawla, Harshita Bodwani, Khushi Jeswani, Vanshika Raheja

Mentor: Mrs. Manisha Mathur

Abstract: "AlumBridge" stands as a testament to the collaborative efforts through which we recognized the need for a more robust and interconnected community within the alma mater. This innovative project is designed to transcend traditional boundaries by creating a digital platform that fosters meaningful connections between current students and alumni. This project proposes the development of a comprehensive alumni-student relationship platform aimed at fostering meaningful connections through meetings and internships. The platform will provide a seamless experience for both alumni and students, facilitating interaction, mentorship, and professional development opportunities. Key features of the platform include a user-friendly login/register page for alumni and students, allowing easy access to the platform's resources. Alumni will have the ability to offer internships and mentorship opportunities, while students can browse and apply for these opportunities based on their interests and career goals. Internship opportunities will be curated and tailored to match the skill sets and interests of students, providing them with hands-on experience in their chosen fields. One of the standout features of AlumBridge is its commitment to going beyond traditional networking. The project emphasises mentorship, knowledge-sharing, and career guidance as key components of its mission. By providing a space where students can connect with alumni who have navigated diverse career paths, AlumBridge aims to empower the next generation with valuable insights and perspectives. The vision for AlumBridge is not just to create a digital platform but to establish a dynamic and supportive community within the college. AlumBridge seeks to enhance the educational journey and professional development of the college community, creating a lasting impact that goes beyond the digital realm. It is a testament to what can be achieved when a group of passionate students comes together to address a common goal and make a meaningful impact on the college experience.

Github Repository: [LINK](#)

2.40 | **BookMyPitch**

Group no:44

Goal | **GOAL 8: Decent Work and Economic Growth**

Group Members: Yash Sharma, Sagar Panigahy, Pranay pawar, Purva Israni

Mentor: Mrs. Manisha Mathur

Abstract: The "Turf Booking System" is a comprehensive web-based application designed to revolutionize the reservation and management process for turf spaces across various sports. With a user-friendly interface, the system aims to simplify booking procedures, ensuring seamless access to turf areas for tournaments or personal use. By integrating features such as user registration, real-time turf availability checking, booking requests, admin approval mechanisms, and user

notifications, the system not only enhances accessibility but also promotes transparency in the booking process. The forthcoming enhancements, including a robust login and signup system, separate UI for managers, and integration of a relational database management system (DBMS) by Backend Lang. PHP , Also using MYSQL as a DB, will further elevate the efficiency and functionality of the platform. Built on a foundation of HTML, CSS, JavaScript, the Turf Booking System is poised to provide a superior digital solution, eliminating the challenges associated with manual booking processes and revolutionizing the turf reservation experience.

Github Repository: [LINK](#)

2.41 | **Restaurant Booking Website**

Group no:45

Goal | **Goal 11 : Sustainable Cities and Communities**

Group Members: Bhuvhan Jamwal, Anish Angural, Aryan Dev Singh, Gorab Dogra

Mentor: Mrs. Priti Joshi

Abstract: In today's fast-paced world, the convenience of online platforms has revolutionized various industries, including the restaurant sector. This abstract outlines the development and significance of a restaurant booking website, which serves as a pivotal tool for enhancing dining experiences. The website provides a user-friendly interface for customers to browse, select, and reserve tables at their preferred restaurants with ease. It streamlines the reservation process, eliminating the hassle of phone calls and reducing the likelihood of errors. Furthermore, the website offers comprehensive information about restaurants, including menus, opening hours, and customer reviews, empowering users to make informed decisions.

Github Repository: [LINK](#)

2.42 | **E-Library**

Group no:46

Goal | **GOAL 4: Quality Education**

Group Members: Sandali Bhat, Nishant Chattani, Shivein Kumar, Sawhney Kushal

Mentor: Mrs. Priti Joshi

Abstract: An e-library is a digital hub hosting a wide array of resources accessible over the internet. It serves as a comprehensive repository, housing digital books, and multimedia content. Functioning as an innovative extension of traditional libraries, e-libraries offer users unparalleled convenience and efficiency in accessing information. Users can explore diverse subjects through a user-friendly online platform, fostering research, learning, and leisure activities. The accessibility of e-libraries transcends geographical boundaries, making knowledge readily available to a wide audience. This digital evolution enhances the dissemination of information, promoting flexibility and sustainability in the way we engage with and utilize educational and recreational resources.

Github Repository: [LINK](#)

2.43 | **Trip Advisor**

Group no: 47

Goal | **GOAL 8: Decent Work and Economic Growth**

Group Members: Lokesh Ghuge

Mentor: Mrs. Priyanka Shah

Abstract: Travel Advisor App is an intuitive platform that integrates with Google Maps to simplify travel planning. It offers quick and easy access to information about restaurants, hotels, and attractions in any city. Users can receive real-time recommendations as they type a location. The app includes detailed information about restaurants, such as images, ratings, pricing, certifications, and cuisine types, with the ability to filter by rating. For hotels, it provides similar details and a seamless booking experience. Users can also explore local attractions. The map feature allows dynamic location exploration, and real-time weather updates keep travelers informed. Our app aims to enhance and streamline the travel experience for all users

Github Repository: [LINK](#)

2.44 | **Making learning an adventure through 3D visualization**

Group no:48

Goal | **GOAL 4: Quality Education**

Group Members: Mahek Kataria, Riya Iasi, Gazal Keshwani, Harshita Lohana

Mentor: Mrs. Priyanka Shah

Abstract: '3D EDTECH' is a cutting-edge platform to revolutionize the way students and enthusiasts learn about complex data structures and algorithms. By integrating visualization, the platform offers a dynamic learning environment where users can explore intricate programming concepts with ease. These visualizations not only enhance comprehension but also provide a deeper understanding of how data structures and algorithms work in different scenarios. Additionally, '3D EDTECH' caters to diverse learners who are benefited from immersive experiences. '3D EDTECH' empowers learners to excel in their academic and professional pursuits.

Github Repository: [LINK](#)

2.45 | **Hotel Management System**

Group no:49

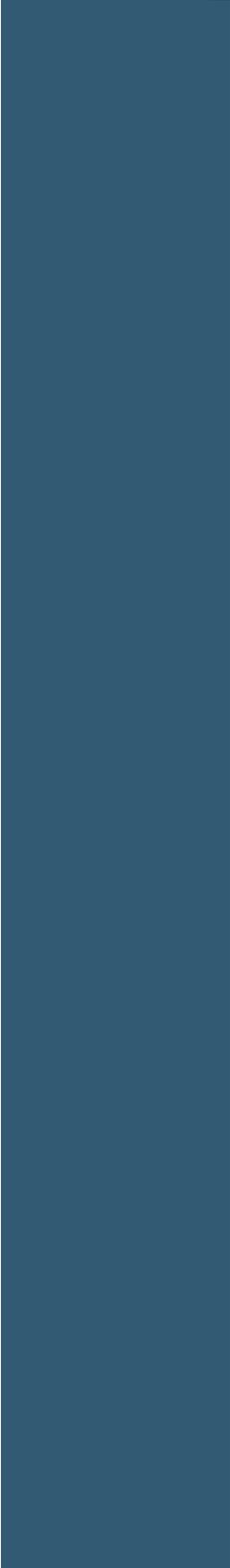
Goal | **GOAL 8: Decent Work and Economic Growth**

Group Members: Sahil Dwarkadas Ahuja, Mohit Vijay Jeswani, Yash Deepak Sainani, Ayush Parwani

Mentor: Mrs. Priyanka Shah

Abstract: The efficient management of hotel operations is paramount to ensuring guest satisfaction and maximizing revenue. This abstract presents a comprehensive Hotel Management System (HMS) designed to streamline various aspects of hotel operations, including Booking management, guest services, billing, and staff administration. The HMS employs a user-friendly interface accessible to admin enhancing communication and efficiency throughout the hotel. It allows Admin to easily make bookings, view room availability and equal allotment of work among employees/staff. Additionally, the system automates billing processes, reducing errors, providing timely facilities to the customers. Key features of the HMS include real-time room status updates, inventory and integration with online booking platforms to optimize room occupancy and revenue. Furthermore, the system incorporates robust security measures to safeguard guest information and ensure compliance with data protection regulations. Through the implementation of this advanced Hotel Management System, hotels can effectively streamline their operations, enhance guest satisfaction, and ultimately achieve greater success in today's competitive hospitality market.

Github Repository: [LINK](#)



5. PRADARSHINI

2023-24



Vivekanand Education Society's Institute Of Technology

(An Autonomous Institute Affiliated to University of Mumbai)

Department of Computer Engineering

in association with

VESIT IQAC & VESIT IIC

Presents



DEPARTMENT TECHNOLOGY DAY 2023-24

PRADARSHINI'24

Fostering Innovation through Project Competition



MARCH 22 & 23, 2024

10:30 AM ONWARDS

Venue: Lab 307, 308, 309 & 310

Areas of Specialization

- AI, Deep Learning & DWM
- Big Data Analytics & Machine Learning
- IoT & Robotics
- Image Processing
- Networking, Security & Blockchain
- High Performance & Cloud Computing
- Application & Product Development



Project Convenor

Dr. Mrs. Gresha Bhatia

Project Coordinators

Mrs. Vidya Zope (S.E.)

Mrs. Priya R. L. (T.E.)

Mrs. Mannat Doultani (B.E.)

1
Problem Identification



3
Analysis & Development



5
Results & Evaluation



2
Literature Survey

4
Implementation



GOVERNMENT DENTAL COLLEGE AND HOSPITAL, MUMBAI
शासकीय दंत महाविद्यालय व रुग्णालय, मुंबई
Affiliated to Maharashtra University of Health Sciences
Recognized by Dental Council of India, New Delhi



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Head Of Department
Department Of Computer Engineering

Dr. Mrs. Gresha Bhatia
Dy. Head Of Department
Department Of Computer Engineering

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Managing Trustee, V.E.S.

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5.1. Display of Projects

List of B.E. Projects

Vivekanand Education Society's Institute Of Technology					
Department Of Computer Engineering					
Academic Year:2023-24					
B.E. Pradarshini Display Projects					
Gr. No.	Team Members	Class	Title Of Project	Mentor	Prize
6	Aarya Lotke	D17C	Package Delivery	Dr. Gresha Bhatia	1st Prize
	Aayushi Salunkhe	D17C			
	Bhargav Mungekar	D17C			
	Niranjan Yeole	D17C			
10	Kinjala Ahuja	D12C - 1	Delivery X: Optimizing Delivery of Parcels	Dr. Sharmila Sen gupta	
	Taufique Ansari	D12C - 4			
	Devangana Barua	D12C-6			
	Dipanshu Ghime	D12C-16			
14	Aayush Talreja	D17C	HistoGrade: Histopathological Image based Oral Pre Cancer-Grading using Machine learning	Dr. Sharmila Sengupta	2nd Prize
	Mansi Bellani	D17C			
	Anuj Bagad	D17C			
5	Figo Cardozo	D17A	Remote Access Control	Dr. Gresha Bhatia + Mrs. Abha Tewari	3rd Prize
	Drishti Samvedi	D17B			
	Vansh Pahuja	D17A			
	Om Madat	D17A			
35	Vivek Balani	D17B	Audio Emotion Recognition using Digital Stethoscope and Deep Learning Techniques	Mrs. Mannat Daultani	Consolation Prize
	Ritika Hotwani	D17B			
	Yash Pahlani	D17B			
	Prabha Pamula	D17B			
1	Japneet Singh Rajput	D17C	Driver alert and assistance for unsafe	Dr. Nupur Giri	Participation

	Yashvi Dhar	D17C	road and weather conditions		
	Anurag Pravin Ghatge	D17A			
	Vishakha Vinaykumar Kulkarni	D17C			
2	Tanmay Damle	D17B	Smart Driving Assistant Using AI		
	Anish Nair	D17B			
	Digvijay Kocharekar	D17B			
	Harsh Deshmukh	D17B			
10	Isha Desai	D17A	Plant Disease Detection	Dr. Sujata Khedkar	Participation
	Jessica Lalchandani	D17A			
	Trishala Jeswani	D17A			
26	Priotosh Mondal	D17A	Gauging Green Energy Feasibility and Output using ML	Mrs. Indu Dokare	Participation
	Aditi Bhatia	D17A			
	Roshini Panjwani	D17A			
	Shrey Panchamia	D17A			
21	Jayesh Dayalani	D17B	SentinelHub-Blockchain-Powered Social Media Prototype	Mrs. Geocey Shejy	Participation
	Aryan Motwani	D17B			
	Raghav Pratap Singh	D17B			
	Anish Mangnani	D17B			
53	Diya Janyani	D17B	NexGen Linkup: Placements with senior expertise	Mrs. Priti Joshi	Participation
	Ritika Vanjarani	D17B			
	Sagar Kishnani	D17A			
	Sahil Kishnani	D17C			
9	Tanay Phatak	D17B	Detection of missing (Car) substance	Mrs. Priya R.L + Dr. Sharmila Sengupta	Participation
	Tanmay Thakare	D17B			
	Gautam Wadhvani	D17B			

	Sakshi Bhojwani	D17B			
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List of T.E. Projects

Vivekanand Education Society's Institute Of Technology					
Department Of Computer Engineering					
Academic Year:2023-24					
T.E. Pradarshini Display Projects					
Group Nos.	Name of the Student	Class	Title Of Project	Mentor	Prize
7	Srushti Sambare	D12A-50	Corporate Earnings Call analysis	Dr. Sujata Khedkar	1st Prize
	Tasmiya Khan	D12A-32			
	Purtee Mahajan	D12A-40			
	Ketaki Nalawade	D12A-45			
2	Piyush Chugeja	D12B-72	Gesturely: Converting gestures to words	Dr. Nupur Giri	2nd Prize
	Sakshi Kirmathe	D12B-71			
	Deven Bhagtani	D12B-68			
16	Richita Karira	D12C-27	Detection of Criminal activities through CCTV	Dr. Rohini Temkar	3rd Prize
	Manav Keswani	D12C-30			
	Tanmay Chaudhary	D12C-11			
	Soumil Tawde	D12C-60			
27	Sanika Hadap	D12C-20	NeuroCare - A Mobile Application for Personalized Migraine Care and Lifestyle Management	Dr. Gresha Bhatia & Mrs. Priya R.L	Consolation Prize
	Tanvi Naik	D12C-42			
	Ajay Iyer	D12C-24			
	Arya Banavali	D12A-1			
6	Aryan Raje	D12A-70	Resilient Rivers: Empowering Flood-Free Futures	Dr. Gresha Bhatia	Participation
	Arya Raje	D12A-69			
	Ishita Marathe	D12A-42			
	Prasad Lahane	D12A-68			
10	Kinjala Ahuja	D12C - 1	Delivery X: Optimizing Delivery of Parcels	Dr. Sharmila Sengupta	these students are associated

	Taufique Ansari	D12C - 4			with B.E. group 6
	Devangana Barua	D12C-6			
	Dipanshu Ghime	D12C-16			
12	Mohit Patil	D12B-40	Movie Review System	Dr. Prashant Kanade	Participation
	Aryan Manghi	D12B-27			
	Mahendra Girase	D12B-13			
	Prasad Chaudhari	D12B-8			
19	Parth Wande	D12A-64	Tour Sentiments: Personalized recommendations system using AI and Deep Learning	Dr. Dashrath Mane	Participation
	Aniket Pradhan	D12A-47			
	Sarvesh Dongare	D12A-15			
	Jay thakker	D12A-59			
42	Shamal Dhanaji Dhekale	D12A-14	EmoSpeak: An emotionally intelligent TTS system for the visually impaired	Mrs. Yugchhaya G	Participation
	Bhagyashree Shankar Vaswani	D12A-62			
	Chandni Gangwani	D12A-16			
51	Manraj Singh Viridi	D12B-69	ReadWiz - Text Analyzer (Summarizer and Paraphraser)	Mrs. Manisha Mathur	Participation
	Nikhil Dhanwani	D12B-67			
	Chirag Santwani	D12B-70			
4	Sneha Tanna	D12A-58	CMS detector quality assurance using ML methods	Mr. Richard Joseph	Participation
	Preethika Shetty	D12A-54			
	Anisha Rohra	D12A-48			
	Ayush Gerra	D12A-19			

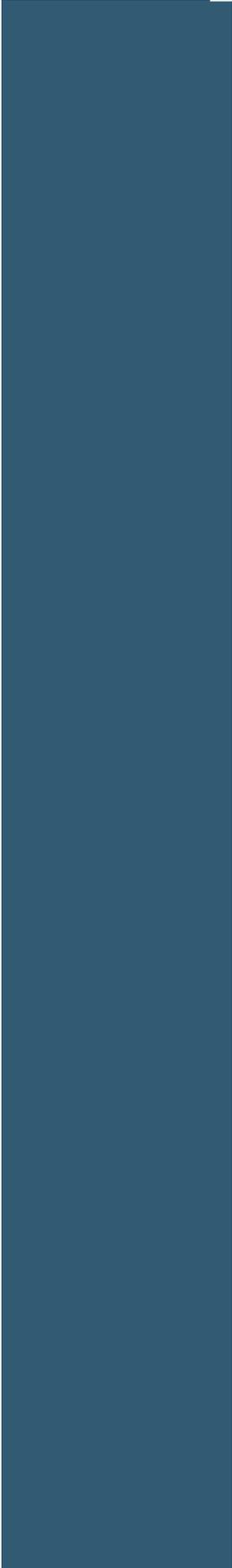
5.2. Smart India Hackathon Projects

Smart India Hackathon						
Gr.No.	Team Members	Class	Title Of Project	Mentor	Team Name	Prize
1	Japneet Singh Rajput	D17C	A mobile app that crowdsources water-related problems from round a community, open sources data, etc. and displays them on a map.	Dr. Mrs. Nupur Giri, Dr. Mrs. Rohini Temkar	Hash Coders	Appreciation (Winner)
	Yashvi Dhar	D17C				
	Anurag Pravin Ghatge	D17A				
	Vishakha Vinaykumar Kulkarni	D17C				
	Aayush Talreja	D17C				
	Sujal Patil	D17A				
2	Madhura Mhatre	D17C	Empowering Restaurants with Data-Driven Dynamic Pricing and Real-Time Insights	Mrs. Sunita Suralkar, Mr. Richard Joseph	Byte Bistro	Participation
	Aaman Bhowmick	D20B				
	Aayushi Salunkhe	D17C				
	Aarya Lotke	D17C				
	Mandar Ambre	D20A				
	Tarun Shetty	D17C				

5.3. Hackathons and Competitions

Vivekanand Education Society's Institute Of Technology						
Department Of Computer Engineering						
Academic Year:2023-24						
Pradarshini Display - Other Category Projects						
Venue : 307						
Sr. No.	Name of the Student	Class	Title Of Project	Mentor	Category	Remarks
1	Dhananjay Pai	D17B	DeCAT: Decentralized Certification Authority	Dr. Nupur Giri	Hackathon	Product Development using Blockchain (ETH India winners Top 12 out of 500)
	Hrishikesh Patil	D17B				
2	Tasmiya Khan	D12A-30	Hearthy - Make your Heart Healthy	Dr. Sujata Khedkar	Hackathon	IIIT Sri City National Helath Care Hackathon -2023, competition shortlisted project
	Purtee Mhajan	D12 A-39				
	Ketaki Nalawade	D12A-44				
	Srushti Sambare	D12 A-54				
3	Vedant Pawar	D12C	Football Data Dilemma - Case study	Dr. Sujata Khedkar	Hackathon	Datathon'24, KJSCE, Vidyavihar
	Nikhil Singh	D12C				
	Soham Tawade	D12C				
4	Parth Wande	D12A	IVR Based Medicine Ordering System	Mr. Richard Joseph	Hackathon	Know Code '24, KJSCE, Sion
	Aditya Kushwaha	D12A				
	Lintomon Chirakkara	D12A				
	Aniket Pradhan	D12A				
	Vedant Talwalkar	D12A				
	Chinmay Phapale	D12A				
5	Manav	D12C	Billwise- AI	Mr. Richard	Hackathon	HackX 2.0, NMIMS,

	Keswani		powered invoice management for MSMEs	Joseph		Kharghar
	Piyush Malviya	D12C				
	Soham Kelaskar	D12C				
	Mrudula Gotmare	D15A				
6	Vedant Pawar	D12C	Quickfill : Software solution to reduce vehicle queues at CNG refilling stations	Mrs. Priya R. L	Hackathon	DevIgnite 2024, SIGCE, Ghansoli
	Sanika Hadap	D12C				
	Soham Tawade	D12C				
7	Harsh Tuli	D12A	Ultrasound Image Analysis for detection of Down's Syndrome	Mrs. Nusrat Ansari and Mrs. Lifna C. S	National Level Hackathon	Alpha Byte 1.0," organized by GDSC PCCOE as a part of Anantya 2024 at Pimpri Chinchwad College of Engineering, Akurdi, Pune.
	Jeet Dalal	D12A				
	Manish Mulchandani	D12A				
	Swaraj Khadge	D12A				



THANK YOU