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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

20CSE703 - Project Work – Title and Abstract

Batch No	Register No	Title	Abstract	Name of the Guide
1	20691A0525, 20691A0548, 20691A0556, 20691A0557	Facial age and gender estimation using Deep Learning	Facial age and gender prediction using Convolutional Neural Networks (CNNs) is a developing area in computer vision. By looking at facial features, CNNs can predict a person's age and gender accurately. This technology has practical uses, like making advertising and security systems better. In today's age of machine learning, facial age and gender prediction using CNNs is a useful tool for understanding how people act and what they like. Existing facial recognition systems for age and gender estimation have relied on traditional computer vision algorithms, which often struggle to accurately identify subtle features of a face. These methods require hand-crafted features and are limited in their ability to adapt to variations in facial expressions, lighting, and other environmental factors. As a result, there is a need for more robust and accurate facial recognition systems. Our proposed system for facial age and gender estimation uses the UTK Faces and Facial Age datasets. The UTK Faces dataset contains over 20,000 images with age and gender labels, while the Facial Age dataset has around 7,000 labelled images for age estimation. We trained our CNN model on these datasets, consisting of four convolutional layers, followed by average pooling layers, a global average pooling layer, a fully connected layer, and a softmax output layer with ReLU activation function. The proposed CNN model achieved an accuracy of 78% on the age estimation task and an accuracy of 89% on the gender classification task, outperforming the existing state-of-the-art methods. Keywords: Facial age prediction, Gender classification, Convolutional Neural Networks (CNNs), UTK Faces dataset.	Dr. R. Kalpana
2	20691A0535, 21695A0504, 21695A0512, 21695A0516	Medicinal Plants Detection using ML Techniques	This study uses machine learning techniques to tackle the crucial problem of identifying species of medicinal plants. Building a strong classification model that can distinguish between multiple plant types based on photos and related metadata is the project's goal. The dataset includes 39 various types of plants, each with extensive information about	Dr. R. Nidhya

			their characteristics and medicinal uses. As a feature selection method, principal component analysis (PCA) is used to increase the discriminative accuracy of the model. PCA facilitates enhanced classification performance by allowing the extraction of the most useful features while maintaining the essential variance of the data, hence lowering its dimensionality. Additionally, the input photos undergo preprocessing techniques including scaling and resampling to guarantee consistency and optimize them for analysis. These preprocessing methods are essential for getting the data ready for the next step of categorization. The Random Forest algorithm is selected for the classification challenge due to its resilience against overfitting and its capacity to manage intricate, high-dimensional datasets. Accurate and trustworthy classification results are produced by Random Forest by combining the predictions of several decision trees. The suggested method's efficacy is demonstrated through experimental evaluation, where the model achieves an astounding 94% accuracy rate. This shows how machine learning approaches can help with the identification and categorization of species of medicinal plants, which can benefit research on medicinal plants and biodiversity conservation.	
3	20691A0503, 20691A0504, 20691A0508, 20691A0534	Ensemble Classification for Improved Lung Cancer Detection: A Comparative Study	Lung cancer poses a formidable challenge to global health, necessitating urgent attention due to its significant impact on patient outcomes. Timely detection is paramount in altering the trajectory of the disease, highlighting the critical importance of early intervention. In this study, we navigate this essential landscape, acknowledging the pivotal role of prompt action in disease management. Our investigation leverages a meticulously curated dataset, designed to closely resemble real-world scenarios, thereby enhancing the applicability of our findings. We deploy a comprehensive array of classification models, including K-Nearest Neighbors (KNN), AdaBoost, Gaussian Naïve Bayes, Logistic Regression, Support Vector Machine (SVM), XG Boost, and Decision Tree, to analyze the dataset. Our results underscore the significance of ensemble models in improving predictive accuracy. By harnessing the synergistic capabilities of diverse classifiers, each compensating for the limitations of others, we establish a robust framework for lung cancer prediction. Through extensive experimentation, we utilize ensemble models to compare predictions generated by different classification approaches, achieving superior accuracy in lung cancer detection. Notably, the Ensemble Weighted Average Model demonstrates exceptional performance, achieving an accuracy of 99.08%, surpassing the individual base models by approximately 2%. Our research holds promise for facilitating timely diagnosis and treatment decisions, thereby contributing to improved patient outcomes in lung cancer management.	Dr. G. Arun Kumar
4	20691A0509, 20691A0532, 20691A0533, 20691A0536	A Novel Stock Market Prediction using DL	Because of its volatility, the stock market is difficult to navigate, subject to anticipate. This topic is examined using Autoregressive ARIMA models. For this study, historical stock market data must be gathered and prepared, ARIMA models must be fitted, and their performance must be evaluated. According to the findings, ARIMA models might be helpful resources for forecasting short-term shifts in the stock market and potential	Dr. R. Sudhakar

			investment opportunities. Notwithstanding progress, challenges like model selection and market volatility persist, underscoring the ongoing requirement for trustworthy forecasting techniques. This work advances to broader efforts to improve efficient stock market prediction models. The study highlights the applicability and interpretability of ARIMA models and shows how well they capture temporal patterns across time. Additionally, ARIMA models are helpful for because of their simplicity of implementation and computational efficiency. For investors, analysts, and policymakers seeking reliable insights into stock market movements, real-time applications present a wonderful opportunity. Keywords: Financial Forecasting, Market Trends, Investment Strategies, Time Series Analysis, Financial Analytics, Market Volatility.	
5	20691A0516, 20691A0529, 20691A0531, 20691A0551,	Identification of Identical Twins using Deep Learning	Identification of identical twins accurately is a challenging task due to their genetic similarity and physical resemblance. Traditional biometric methods, such as fingerprinting or iris scans, are not effective for distinguishing between identical twins. In recent years, deep learning has emerged as a powerful tool for various biometric identification tasks. This paper proposes a novel approach for identifying identical twins using deep learning techniques. The proposed method utilizes a convolutional neural network (CNN) architecture to extract discriminative features from facial images of identical twins. The CNN is trained on a large dataset of facial images of twins, leveraging the shared genetic characteristics that result in subtle differences between twins. Transfer learning is employed to fine-tune the pre-trained CNN on the twin dataset, enhancing its ability to differentiate between twins experimental results on a dataset of identical twins demonstrate the effectiveness of the proposed approach, achieving a high level of accuracy in identifying twins. The model's performance is evaluated using metrics such as precision, recall, and F1-score, demonstrating its superiority over traditional methods. Overall, the proposed method offers a reliable and efficient solution for identifying identical twins, with potential applications in various fields, including law enforcement, healthcare, and security.	Dr. K. Sudhakar
6	20691A0501, 20691A0502, 20691A0530, 20691A0540	Face Recognition in Class Room Environment	This research project endeavours to create an advanced system for gathering student data optimized for classroom use. It employs a systematic approach beginning with the capture of student images in a methodical manner. These images are then subjected to sophisticated image processing techniques, such as segmentation, to extract unique traits. Subsequently, the extracted characteristics are converted into structured pixel values stored in an array. Machine learning techniques, including the utilization of OpenCV and facial recognition algorithms, are employed to train a model. Remarkably, the system achieves an impressive 99.38% accuracy in predicting student presence. Furthermore, real-time person detection implemented with OpenCV allows for instantaneous insights into classroom entries. The system meticulously logs these entries, including crucial date and time information, resulting in a comprehensive daily compilation stored as a text file.	Dr. D. J. Ashpin Pabi

			This compilation forms an extensive database, providing insightful information on attendance trends over time. Additionally, it streamlines the recording of attendance, offering teachers an efficient solution for managing classroom attendance. The incorporation of state-of-the-art technologies such as machine learning and image processing not only enhances the precision of attendance records but also empowers teachers with a streamlined, automated approach to attendance management. This advancement contributes to a more sophisticated and efficient learning environment, ultimately benefiting both educators and students alike.	
7	20691A0552, 20691A0553, 20691A0554	Image based Food Recognition using Deep Learning Approaches	Food image classification is an emerging research field due to its increasing benefits in the health and medical sectors. For sure, in the future automated food recognition tools will help in developing diet monitoring systems, calories estimation and so on. In this paper, automated methods of food classification using deep learning approaches are presented. SqueezeNet and VGG-16 Convolutional Neural Networks are used for food image classification. It is demonstrated that using data augmentation and by fine-tuning the hyper parameters, these networks exhibited much better performance, making these networks suitable for practical applications in health and medical fields. SqueezeNet being a lightweight network, is easier to deploy and often more desirable. Even with fewer parameters, VGG-16 is able to achieve quite a good accuracy. Higher accuracy of food image classification is further achieved by extracting complex features of food images. The performance of automatic food image classification is further improved by the proposed VGG-16 network. Due to increased network depth, proposed SqueezeNet has achieved significant improvement in accuracy. In Food image classification SqueezeNet is get good classification results compare to VGG-16. They classify food item name with images approximately recognition the item name.	Dr. S Elango
8	20691A0511, 20691A0545, 20691A0555, 21695A0502	Smart Classroom for Attendance Monitoring and Power Conservation using ML and IOT	This project aims to enhance traditional classrooms by incorporating advanced technology to create a Smart Classroom environment. The key components include a Facial Attendance System and an Automated Lighting & Fan Control system, both integrated with mobile applications for seamless user interaction. The Facial Attendance System leverages facial recognition technology to automate the attendance tracking process. As students enter the classroom, their faces are scanned and matched against a pre-registered database. This eliminates the need for manual attendance-taking, reducing administrative burden and ensuring accurate attendance records. The Automated Lighting & Fan Control system enhances energy efficiency and user comfort within the classroom. Smart sensors installed in the room detect the presence of individuals underneath, triggering automatic control of lights and fans. When a person is detected, the system intelligently adjusts the lighting conditions and activates or adjusts fan speed accordingly. This not only contributes to energy conservation but also creates a comfortable and productive learning environment. The entire system is interconnected through a mobile application, providing users with remote control and monitoring capabilities. Users can access real-time	Dr. R. Sundar

			attendance data, control lighting and fan settings, and receive notifications related to the system's status. The mobile application adds flexibility to the system, allowing users to manage the classroom environment even when they are not physically present. This project showcases the integration of facial recognition technology and automated control systems to create a modern and efficient learning space. The combined features aim to streamline administrative processes, enhance energy efficiency, and provide an improved learning experience for both students and educators.	
9	20691A0522, 20691A0538, 21695A0503	Hyderodepth: An Integrated approach for Accurate Depth and Radius Estimation of Circular Water Bodies and Borewells	The HydroDepth project presents a revolutionary framework for automated circular hole detection and analysis, utilizing advanced imaging and OpenCV-based algorithms. Its primary objective is to accurately measure depth and diameter of circular holes within water bodies and borewells. The process involves image preprocessing, contour detection, user interaction, and automated calculations for depth and diameter. The framework's accuracy and efficiency surpass conventional methods. Utilising a graphical interface, users select regions of interest for analysis. The algorithm estimates depth using contour lengths, calculates diameter from enclosing circles, and measures enclosed area. The annotated images with contour overlays enhance visualization. The project's impact spans water resource management, infrastructure inspection, geological studies, and environmental monitoring. In conclusion, HydroDepth's innovative approach to circular hole analysis through advanced imaging and automated calculations redefines accuracy and efficiency. It offers a transformative solution for comprehensive assessment, spanning various applications in water management, infrastructure, and environmental monitoring. Keywords- HydroDepth, circular holes detection, OpenCV, advanced imaging technologies, computer vision, contour detection, depth estimation, diameter calculation, area measurement, user interaction, region of interest (ROI), robust contour detection.	Dr. S. Sathya
10	20691A0506, 20691A0542, 20691A0550, 20691A05J8	Analysing Travel Preferences based on Demographic factors and Recommending Tourist Destinations	The development of an Integrated Tourism Portal has been meticulously guided by a comprehensive and user-centric project methodology, aimed at enhancing travel experiences for users. Beginning with clearly defined objectives and exhaustive stakeholder analysis, the project embarked on meticulous market research to pinpoint destination specifics and competitive landscapes. The requirements gathering phase involved crafting user stories and personas, culminating in a finely delineated set of functionalities encompassing itinerary planning, accommodation booking, transportation details, and local event information. Subsequently, the design and prototyping phase focused on creating an intuitive user interface, which evolved through iterative prototyping based on user feedback. The implementation utilizes TF-IDF and cosine similarity algorithms for recommendations, leveraging SQLite for database management. This integrated approach combines diverse functionalities seamlessly within a singular platform, catering to the varied needs of users while ensuring a personalized and enriching experience. Moreover, the project's emphasis on user-centricity extends to its utilization of advanced recommendation techniques such as TF-IDF and cosine similarity, ensuring	Dr. G. Sreenivasulu

			tailored suggestions that align closely with individual preferences. By employing these algorithms, the portal delivers personalized recommendations for activities, accommodations, and events, enhancing user engagement and satisfaction. Furthermore, the adoption of SQLite for database management ensures efficient data storage and retrieval, facilitating seamless access to information for both users and administrators. This holistic approach, integrating cutting-edge technology with a deep understanding of user needs, positions the Integrated Tourism Portal as a comprehensive solution for users seeking enriched and personalized experiences.	
11	21695A0501, 21695A0507, 21695A0508, 21695A0511	Enhancing Accessibility: Integrating Sign Language Keyboard and Smart Technology for Seamless Communication among Deaf Users	"Enhancing Accessibility: Integrating Sign Language Keyboards and Smart Technology for Seamless Communication Among Deaf Users" is a project dedicated to addressing the communication barriers faced by the deaf community. Its core objective is to improve accessibility and inclusivity for deaf individuals in online communication platforms. The project introduces several key features aimed at facilitating seamless communication in American Sign Language (ASL) across various digital platforms. Among these features is the Sign Language Keyboard, which empowers deaf users to express themselves naturally in ASL. Additionally, the project includes a specialized Deaf Community Android Application, providing a tailored online space for deaf individuals to connect and interact. The integration of Sign Language Recognition using webcams allows for real-time translation of ASL gestures into text, enhancing communication efficiency. Leveraging smart technology, the project ensures accurate interpretation of ASL signs by computer programs, further bridging the communication gap. Furthermore, the implementation of text-to-sign and voice-to-sign translation functionalities expands the communication capabilities of the system. Overall, this comprehensive approach aims to enhance online communication accessibility for deaf users, fostering inclusivity and promoting a more accessible digital environment.	Mr. Mohan.M
12	20691A0515, 20691A0523, 20691A0546	Enhancing Telugu parts of speech tagging's with deep sequential models and multilingual Embeddings using Deep Learning	In the field of natural language processing (NLP), part-of-speech (POS) tagging is a fundamental task that revolves around assigning grammatical categories to the words within a sentence. In this study, our focus is on exploring the use of deep sequential models to perform POS tagging specifically for Telugu, which is a low-resource Dravidian language characterized by its intricate morphology. For our research, we utilize the Universal dependencies dataset and investigate different deep learning architectures, such as Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM) networks, Gated Recurrent Units (GRUs), and their stacked variations. These architectures are employed for the purpose of POS tagging. Moreover, we make use of multilingual BERT embeddings and indicBERT embeddings to capture the contextual information present in the input sequences. The results of our experiments indicate that the use of stacked LSTM with multilingual BERT embeddings yields the best performance, surpassing other methods and achieving an impressive F1 score of 0.8812. These findings strongly imply that deep sequential models, specifically stacked LSTMs with multilingual BERT embeddings, are highly effective in POS Tagging.	Mr. Syed Abuthahir S

| 13 | 20691A0513, 20691A0514, 20691A0519, 20691A0587 | Direct Speech to Speech Translation | In recent years, there has been significant progress in the area of speech-to-speech translation, an essential machine learning application of natural language processing. In this work, we propose a unique method of direct speech-to-speech translation that allows users to break down language barriers during real-time conversations seamlessly. Our system, which employs current deep learning methods such as Recurrent Neural Networks and attention patterns, is capable of learning to translate one spoken language into another with a high level of accuracy and with minimal delay. To allow the proposed architecture to capture and align relevant linguistic characteristics from the source and target language, we base it on an encoder-decoder framework with the addition of unique attention mechanisms. Furthermore, we demonstrate how the system can rapidly adapt to individual language pairs by utilizing transfer learning and fine-tuning techniques. A thorough assessment reveals the system's accuracy and versatility. The project entails utilizing machine learning models, mainly the deep learning kinds, to achieve speech-to-speech translation directly. Numerous methods, including sequence-to sequence models and transformers as well as attention mechanisms, have been theoretically and experimentally analyzed to improve the quality and fluency of the translations. The integration of attention mechanisms, on the other hand, plays a vital role in helping the model identify useful information from the input speech signals, as well as allowing it to focus on important parts of the input during translation. Closely related to the above point, the mechanism enables the model to effectively handle long input sequences, which translates to a better and coherent final translation. Moreover, the use of transfer learning has enabled adaptation of pre-trained models to out-of-domain or low-resource languages using little training data. Such models can generalize well, especially in low-resource languages, through inclusion of a wide variety of information from high-resource languages or domains. In totality, the development of direct speech-to-speech translation systems has come a long way, but it is facing several open challenges. This includes overcoming speech variability such as diverse accents, speech variation and noise from real world environments, which limits generalization. Overcoming these challenges require the use of robust preprocessing methods, data augmentation, and domain adaptation approaches to improve the robustness, and generalization of the model. In addition to this, it's crucial that privacy and data security are integrated, especially where sensitive information is involved. Thus, one can explore approaches for privacy-preserving machine learning and decentralized learning as a way of ensuring safety of users' data without compromising translation quality. Additionally, advances in neural architecture search and model compression provide opportunities for developing lightweight but efficient models that can be deployed on devices with limited resources. In the end, direct speech-to-speech translation run through machine learning has experienced considerable progress hence offering unparalleled prospects in cross-lingual energy communication. By utilizing the best methods and dealing with current problems, our project contributes to developing strong and scalable translation systems that can make the world more interrelated and inclusive. | Mr. B. Galeebathullah |

14	20691A0539, 20691A0544, 20691A0560, 21695A0509	A Novel Approach for Depression Detection using Hybrid Deep Learning Model	In this present day, psychological wellness sickness have become profoundly pervasive and misery is one of the emotional wellbeing issue it has expanded its scope. Depression is the second most common cause of illness burden globally, according to WHO data. Depression is not the same as normal mood swings or feelings related to day to day living. It may have an impact on ones life and connections with family, friends, and community as a result a users mental health and emotional state can be discussed on social media. This study proposes a novel method for detecting depression by integrating convolutional neural network (CNN) and LSTM. The hybrid deep learning model aims to enhance accuracy in identifying depressive symptoms by leveraging both spatial features learned by CNN and LSTM. Results suggest the potential effectiveness of this approach advancing depression detection methodologies.	Mr. Gandi Ramakrishna
15	20691A0590, 20691A0559, 20691A0564	Recommendation of Commodities Exchange Using Deep Learning Algorithm	The stock market is a major activity that plays a huge role in the company's financial status. The stock market exchange provides the latest news and events related to international business. Its various components are analysed by technical analysts and investors. Due to the ample sources of information about stocks and investing, it is hard for customers to predict the future movements of the stock market, under this situation Deep learning algorithms help the customer to predict the value of stocks. In this project it uses a stock price ensemble model to predict the future moments of the stock market. The stock price ensemble model uses factors like time series, company's historical data which is used to train our algorithm. The objective of this project is to increase the accuracy in future prediction. The Motto of this project is to get the better accuracy of the LSTM algorithm and to perform the output analysis of the given dataset. By composing the LSTM and ANN algorithm LSTM will give better accuracy and here ANN will give the accuracy of 84% but after performing LSTM algorithm will give better Accuracy than ANN. Keywords: LSTM , ANN , Stock market , Prediction , Dataset	Mr. J. Nagaraj
16	20691A0505, 20691A0528, 20691A0549	Web based book searching using KNN Model in Machine Learning	Emergence of online books has sparked fierce competition, prompting the utilization of recommender systems to enhance user experiences. These systems aid users in product recommendations and preference insights, driving revenue growth through efficient customer engagement. This study introduces a comprehensible approach to book recommendations, facilitating optimal book selection for readers. The methodology relies on database training and user feedback to furnish insightful information, facilitating well-informed decisions. The proposed system employs the collaborative filtering technique, leveraging machine learning through the K-Nearest Neighbours (KNN) model to classify books based on user preferences. This paper outlines the architecture of the recommended system, showcasing its practical implementation. By integrating collaborative filtering and machine learning, the methodology presents a potent solution for enhancing user interactions, fostering book discovery, and ultimately boosting revenue for online books. Keywords: Personalize book recommendation; recommendation system; clustering; machine learning. Keywords: Personalize book recommendation; recommendation system; clustering; machine learning	Mr. M. Rajasekaran

17	20691A0537, 20691A0541, 20691A0558	Marine Animal Detection and Recognition with advanced Deep Learning Model	Marine ecosystems are vital components of our planet, housing a diverse array of species. Monitoring and understanding these ecosystems are essential for conservation efforts and scientific research. This paper presents a novel approach to detection and recognition of marineanimals using advanced deep learning models, specifically Mobile Net and ResNet-50, in the context of underwater image analysis. Over the past few years, there have been substantial advancements in computer vision tasks thanks to the progress madein deep learning, and its application to marine biology presents promising opportunities. Mobile Net and ResNet-50 arechosen for their efficiency and accuracy, making them suitable for real time deployment in underwater environments. The proposed system employs a two-step process: object detection and species recognition. Firstly, Mobile Netis utilized for object detection to locate marine animals in underwater images. Next, ResNet-50 is applied for fine grained species recognition, classifying the detected animals into specific categories. The model is trained on a comprehensive dataset comprising diverse marine species to ensure robust performance. Our experiments demonstrate the effectiveness of the approach in accurately detecting and recognizing marine animals across various underwater conditions, including low visibility and different lighting conditions. The system's performance is evaluated in terms of detection accuracy, species classification accuracy, and computational efficiency. This research makes a valuable contribution to the field of marine biology by offering a dependable and effective tool for the monitoring and study of marine life. The proposed deep learning-based system can assist researchers, conservationists, and marine biologists in cataloging and understanding marine ecosystems, ultimately supporting conservation efforts and advancing our knowledge of the secritical environments. Keyword- deep learning, mobile net, resnet-50, image processing, marine animals, deep oceans.	Mr. S. Srinivas Kumar
18	20691A0512, 20691A0518, 20691A0524, 20691A0547	Automating Medicinal Plant Recognition Using Deep Convolutional Neural Networks in Leaf Imagery Analysis	In the past few decades, there has been a renaissance in the acceptance of therapeutic vegetation, driven by an increasing belief in herbal medicine. Medicinal plant research has recently received significant attention among the medical and drug development sectors. Accurate recognition of species of medicinal plants is essential due to the increasing need for medicinal plants in rural areas of emerging countries and the pharmaceutical field. It can be challenging without sufficient taxonomic expertise. We conducted an assessment of four advanced deep learning algorithms to automatically identify plants from leaf photos and determine the most appropriate model through a comparison analysis. Intensive training was carried out on deep neural network architectures including InceptionV3 , Visual Geometry Group16 (VGG16), SqueezeNet & Visual Geometry Group19 (VGG19). The training dataset consisted of 1835 pictures, which were divided across 30 distinct plant families. The evaluation included five separate techniques: Support Vector Machine (SVM), Neural Network , Random Forest, Decision Tree, & Logistic Regression. Here we are employing a hybrid technique with a mix of the two transfer learning models and machine learning. Hybrid models can deal with a wide range of data kinds and structures, which makes them excellent for different applications. These models can cope with complicated situations more efficiently, lowering computing strain. Therefore, the hybrid	Mr. Mohamed Yousuff A.R

			technique is the best option to acquire the results more accurately. Multiple model layouts are developed, Using the highest efficiency, obtaining a rate of recognition of 96.67% of recognizing the specific medicinal plant. These greatly elevated accuracy levels give the predictive models a highly effective advisory as well as early warning capability.	
19	20691A0507, 20691A0510, 20691A0526, 20691A0527	Revolutionizing Presence Management with Facial Recognition	The manual attendance monitoring system is labor intensive and difficult to maintain. This article proposes a Facial recognition-based intelligent attendance system that aims to modernize and streamline it. Advanced biometric technology, namely Face Recognition algorithms based on Deep Learning (DL), is utilized in the proposed system. The main training dataset for the Local Binary Patterns Histogram (LBPH) Face Recognizer is composed of human faces. A user-friendly web page is implemented by developing the user interface using the Flask framework. The ability to record attendance data, including timestamps, in a database is a notable improvement to this system Another new feature is the ability to utilize the Fast to SMS website to send parents information on their child's attendance, behavior, and grades. This enhancement fosters a more educated and engaged student body culture while also increasing productivity and strengthening the channels of communication between parents and schools. Keywords: Attendance Management, Computer Vision, Deep Learning, Human Face Images, sending SMS.	Mrs. M. Bommy
20	20691A0520, 20691A0521, 21695A0506, 20691A05I6	Digital Image and Forgery detection using CNN	In the current digital age, the easy accessibility of image editing tools such as Adobe Photoshop, Canva, KineMaster, and QuikSort has resulted in an increase in the creation of doctored images. This study aims to detect forgeries crafted through image splicing techniques, employing convolutional neural networks (CNNs) and semantic segmentation for identification and localization. The method is built on top of transfer learning leveraging VGG16 deep CNN architecture which trains the algorithm to distinguish between real and fake images. The process consists of two main phases: detection and localization. The detection phase determines whether an image has undergone manipulation, while the localization phase identifies the specific forged regions within the image. To address these phases separately, two distinct algorithms are employed: VGG16 and U-Net. VGG16, a 16-layered CNN architecture, is used for detecting signs of forgery by classifying pixels within an image. Conversely, U-Net, coupled with VGG16, enables semantic segmentation, facilitating precise identification of forged pixels within the image. VGG16 outperforms U-Net at locating counterfeit areas with greater precision as revealed by the results, which is a promising outcome in the detection of image manipulation. This study contributes to the ongoing endeavours in combating image forgery by harnessing the potential of deep learning and semantic segmentation methodologies. Keywords: CNN, Semantic Segmentation, Image Forgery, Image Splicing, Pixel Classification.	Mr. Aleemullakhan Pathan

21	20691A05B5, 21695A0514, 21695A0515, 21695A0524	Encryption for DNS Attacks	Our project aims to enhance communication security between clients and DNS servers by utilizing DNS encryption keys. Traditional DNS queries and responses are vulnerable due to being transmitted in plaintext, making interception and manipulation possible. To address this, the project starts with client initialization, including setting up a secure environment for communication with the DNS server. Key pairs are generated for both the client and server, consisting of public and private keys, ensuring encryption and decryption of DNS data. Once key pairs are created, the client establishes a secure socket connection using protocols like TLS for data encryption. When resolving domain names, the client encrypts DNS queries using the DNS encryption key before sending them to the server. The exchange of public keys between client and server enables secure message encryption and decryption. Upon receiving encrypted DNS queries, the server decrypts them using its private key, processes requests, and encrypts responses using the client's public key before transmitting. The client then decrypts these responses, presenting the resolved DNS information to users securely. Overall, these measures aim to enhance DNS communication security, mitigating risks associated with plaintext transmission and potential attacks. Keywords: DNS, Spoofing, Poisoning, Encryption, Dos	Mr. Ch. Hemanand
22	20691A0578, 20691A0588, 20691A05B9, 21695A0518	Empowering Medical diagnosis with Explainable AI: A ResNet-Based approach to Cardiomegaly Detection	This study presents a Diagnosis Support Model for Cardiomegaly using Convolutional Neural Networks (CNNs) with a focus on the Residual Network (ResNet) architecture, enhanced by Explainable Feature Maps. Cardiomegaly is a critical cardiac condition characterized by an enlarged heart, and early detection is vital for timely intervention. This research aims to leverage deep learning techniques to automatically classify X-ray images and provide clinicians with an efficient diagnostic tool. By incorporating Explainable Feature Maps, the model enhances interpretability, assisting medical professionals in understanding the key visual cues driving the classification decisions. The proposed model holds promise for accurate and transparent Cardiomegaly diagnosis. Together with these steps, these maps make the model interpretable, allowing clinicians to view certain visual signs and make meaningful decisions. The AI model has been developed for rapid and precise initial screening; positive results are promising because the AI model is a promising tool to equip clinicians with a fast, trustworthy, and straightforward diagnostic tool for cardiomegaly. Because we tested and trained our model using various simulated datasets based on chest X-rays, we intend to reliably identify cardiomegaly symptoms. Our work reveals a new scientific tool that combines the analytical capabilities of deep learning with interpretability advantages for clinical applicability. Keywords: Deep learning, Cardiomegaly, image classification, Resnet, mobilenet.	Mr. Thangarasan T
23	20691A0593, 20691A05A5, 20691A05A6, 20691A05C0	Machine Learning based Spam Comments Detection on Youtube	The rise of spam comments on platforms like YouTube has become a significant concern, as they not only hinder genuine user engagement but also pose serious risks to users' safety and privacy. Machine Learning (ML) offers a powerful solution to combat spam comments by automating the process of detecting and preventing them. With the ability to analyze vast amounts of data and patterns, ML algorithms can effectively distinguish between legitimate comments and those that are spam. One of the commonly employed approaches	Ms. S. Sowmyadevi

			in ML for spam comment detection is the Naïve Bayes classification algorithm. Concerning a comment's attributes and the presence of specific catchphrases or idioms that are typical of spam content, Innocent Bayes is a probabilistic computation that determines the likelihood that a comment is spam. By training the algorithm on a labeled dataset of spam and non-spam comments, it can learn to recognize patterns and generalize its understanding to new, unseen comments. Achieving a detection accuracy of 92.78% is indeed promising, but researchers and developers continue to explore other ML techniques and combinations to further improve the accuracy and robustness of spam comment detection systems. Ensemble methods, deep learning, and natural language processing (NLP) techniques are among the advanced ML approaches gaining attention in this domain. One crucial aspect of an effective spam detection system is its adaptability and responsiveness to emerging spam tactics. Keywords: ML evaluation, ML techniques, Naïve Bayes, decision tree, MLP classifier.	
24	20691A0563, 20691A0567, 20691A0582, 20691A0592	Parkinsons disease detection using Deep Learning	A neurological condition affecting millions of individuals globally is Parkinson's disease. Sixty percent of those over 50 have Parkinson's disease (PD). Patients with Parkinson's disease have trouble speaking and moving, which makes it challenging for them to get to treatment and observation sessions. Patients with Parkinson's disease can lead normal lives thanks to medication made possible by early diagnosis. The world's aging population underscores the need for early, remote, and accurate PD identification. Machine learning algorithms have demonstrated significant promise in the early identification and detection of Parkinson's disease in recent years. In this study, we use Xception architecture and machine learning techniques to present a unique methodology for Parkinson's disease identification. In particular, we concentrate on using spiral and wave drawings—which are frequently employed in medical procedures as diagnostic tools—to identify Parkinson's disease. Spiral-shaped and a wave drawing from people who had and did not have Parkinson's disease were gathered into a dataset. Our ML models were trained using the Xception architecture after the data had been preprocessed. In the task of detecting Parkinson's disease (PD) from spiral drawings, our models demonstrated remarkable performance, achieving 95.34% training accuracy and 93.00% validation accuracy. Similarly, in the case of wave drawings, we achieved 93.34% training accuracy and 86.00% validation accuracy. Our findings show how machine learning and the Xception architecture can be used to diagnose and detect Parkinson's disease early on. Our method may enhance Parkinson's disease diagnosis precision and efficiency, improving patient's outcomes and quality of life.	Mr. Anandaraj B
25	20691A0562, 20691A0576, 20691A0580, 20691A0583	Fraud Detection in Banking Transactions using Machine Learning	Vulnerability in banking systems has exposed us to fraudulent acts, which cause severe damage to both customers and the bank in terms of loss of money and reputation. Financial fraud in banks is estimated to result in a significant amount of financial loss annually. Early detection of this helps to mitigate the fraud, by developing a counter strategy and recovering from such losses. A machine learning-based approach is proposed in this paper to contribute to fraud detection successfully. The artificial intelligence (AI) based model will speed up the check verification to counteract the counterfeits and lower the damage.	Mrs. V. Nirupa

			In this paper, we analyzed numerous intelligent algorithms trained on a public dataset to find the correlation of certain factors with fraudulence. The dataset utilized for this research is resampled to minimize the high class of imbalance in it and analyzed the data using the proposed algorithm for better accuracy. Keywords: Fraud Detection, AI Model, feature selection, feature extraction	
26	20691A0575, 20691A0599, 20691A05A1, 20691A05A2	Digit Recognition using CNN	"Digit recognition" refers to a computer's capacity to identify numbers from many sources, including documents, images, touch displays, and more. The numbers fall into one of nine categories. Digit recognition is used in data entry, bank check processing, postal mail sorting, and other fields. The key to solving this problem is to create a fast algorithm that can identify numbers submitted by people using a tablet, scanner, and other electronic devices. One significant field of neural network research is the recognition of handwritten numbers using the MNIST dataset... In essence, it can identify handwritten digits from scanned photos. We have gone one step further and developed a digit recognition system that, with the aid of an integrated graphical user interface (GUI), can write numbers on the screen in addition to recognizing scanned images of handwritten digits.	Mr. P. Kaliyamoorthi
27	20691A05B6, 20691A0574, 20691A05A0, 20691A05B8	Human Facial and Speech Emotion Recognition using ML	This study investigates the application of machine learning techniques for human emotion recognition using both speech and image modalities. The RAVDESS dataset is utilized for speech emotion recognition, while the CK dataset is employed for facial emotion recognition. Features such as zero-crossing rate (ZCR), chroma, Mel-frequency cepstral coefficients (MFCC), root mean square (RMS), and Mel spectrogram are part of feature extraction from speech samples, while Histogram of Oriented Gradients (HOG) features are extracted from facial images. Logistic regression, random forest, XGBoost, and Support Vector Machine (SVM) classifiers are trained on these features to predict five basic emotions: happy, sad, fear, angry, and surprise. The image model achieves high accuracies of 99% for logistic regression, SVM, 98% for random forest, and XGBoost classifiers. For the speech model, accuracies are relatively lower, with logistic regression at 62%, SVM at 65%, XGBoost at 81%, and random forest at 73%. Model tuning improves the speech model accuracy to 84%. Emotion prediction is performed on video inputs by extracting frames and audio, enabling real-time emotion recognition. This study contributes to advancing emotion recognition systems capable of analyzing multimodal inputs for various applications in human-computer interaction and affective computing. Keywords: speech emotion recognition, facial emotion recognition, multimodal inputs, feature extraction.	Mrs. R. Usha
28	20691A0561, 20691A0569, 20691A0570, 20691A0572	Machine Learning Model for prediction of Smart Phone addiction	The main aim of this study is to observe levels of smartphone addiction and investigate the connection between various smartphone activities among male and female users. A carefully crafted questionnaire was utilized to gather information on individual smartphone usage. A total of 115 college undergraduates took part in the survey, fulfilling the questionnaire as part of their course obligations. The data collected was then utilized to develop a machine-learning model through clustering. Nowadays, smartphone addiction is a growing problem that has a detrimental effect on people's general well-being, productivity, and mental health. Here, we suggested a few machine learning algorithms	Mr. B. S. H. Shayeez Ahamed

			for predicting smartphone addiction, including Naïve Bayes, SVM, Random Forest, decision trees, and linear regression. To create a reliable predictive model for smartphone addiction, this research focuses on algorithms. The basis for model training and assessment is an extensive dataset covering a variety of user behaviors, including screen time, app usage patterns, and social media engagement. Following the data-driven model training process, the model underwent testing. The cross-validation technique was applied to guarantee the model's test reliability. Following the model's tests, 92.4% of the predictions The results indicate significant differences between males and females in smartphone usage patterns. Males tend to use smartphones more frequently for accessing books and e-books. Females are more likely to own phones for over 12 hours, whereas males predominantly own phones for less than 6 hours. Additionally, most males report their smartphone battery lasting a day, while females' responses are almost evenly split between "yes" and "no." The entire population is segmented into three clusters: Highly addicted, moderately addicted, and non-addicted groups. This predictive model holds considerable value in understanding smartphone usage levels and foreseeing potential risks prevalent among addicted smartphone users.	
29	20691A0571, 21695A0513, 21695A0522, 21695A0523, 20691A05A7	Phisguard URL using ML	Phishing is still a big problem in the digital world because it takes advantage of people's carelessness to obtain personal information through fraud. Traditional anti-phishing strategies struggle to keep up with the constant stream of sophisticated phishing schemes. In response, this work employs machine learning to offer a substitute method for detecting phishing websites. Our proposed hybrid model combines multi-layer perceptron (MLP), support vector machine (SVM), CatBoost, and Gradient Boosting Classifier algorithms to achieve the best accuracy of 97.1% Our approach is based on analyzing several facets of URL significance in order to differentiate between authentic and fraudulent websites. The hybrid method extracts and analyzes various data, including linguistic traits, URL structure, and domain age, to effectively identify fraudulent URLs. By using multiple machine learning algorithms, the detection system's flexibility and accuracy are increased. By conducting extensive testing and evaluation, we demonstrate the efficacy of our approach in real time phishing detection. The hybrid model exhibits superior performance in this regard by achieving better accuracy and robustness in distinguishing between real and fake websites Phishing attacks are still a risk for users in today's digital world, but our comprehensive anti phishing solution offers a promising defense.	Mrs. Deepthi. P
30	20691A0589, 20691A05B2, 20691A05B3, 21695A0517	Inherited Eye Diseases Recognition in Childrens age using pupillometry	Hereditary retinal abnormalities cause vision deficits in children. These are divided into two groups: pediatric inner and outer retinal disorders. One technique to ascertain the inner and outer functions of the retina is chromatic pupilometry. This paper describes how pupilometry & machine learning are used by clinical decision support system (CDSS) to assist in the identification of genetic retinal diseases in children. Pupilometers, a type of medical equipment, are used in conjunction with a proprietary machine learning decision support system to implement a hardware-software machine learning. Here, two independent support vector machine(SVMs), one for each eye, are given features extracted from pupilometric data. The CDSS is used to diagnose retinal pigmentosa in children. The	Mrs. Sangeetha.M

			output of two SVMs yields a respectable result: 0.937 sensitivity, 0.785 specificity, and 0.846 accuracy. This is the first study to treat childhood genetic disorders using pupilometry and machine learning techniques. Keywords: support vector machine, pupilometry, retinal pigmentosa, clinical decision support system, machine learning	
31	20691A0566, 20691A0573, 20691A05B1, 20691A05B7	Hybrid Model for Lung cancer prediction using Machine Learning	One of the leading causes of death due to cancer in this generation is lung cancer. Lung cancer kills considerably more young individuals than it does elderly people when compared to other malignancies. Previously, Random Forest and Gaussian Naïve Bayes were used to identify lung cancer. The average accuracy of the model's lung cancer predictions is lower. We presented an innovative Hybrid Model combining Random Forest with Gaussian Naïve Bayes. To save many lives, the suggested model detects lung cancer early. The dataset of patients affected by lung cancer at various stages was used for experimental purposes. Examining the correctness of the suggested model, Random Forest, and Gaussian Naïve Bayes is the main goal of the experiment. The proposed hybrid model results in 99% accuracy while the accuracy of Gaussian Naïve Bayes is 92% and Random Forest is 98%. Keywords: Lung cancer, Gaussian Naive Bayes, Random Forest, Hybrid Model, Machine Learning	Mrs. G. Vasundara Devi
32	20691A05A8, 21695A0519, 21695A0520, 21695A0521	Facial Biometrics for Seamless Attendance Tracking in Educational Institutions	The conventional manual methods of attendance tracking are being revolutionized by the advent of face recognition-based systems in educational institutions and workplaces. This innovation aims to optimize efficiency and streamline time management through automation. In this envisioned scenario, a sophisticated device equipped with a Logitech C270 webcam and powered by the NVIDIA Jetson Nano developer kit serves as the cornerstone. OpenCV is employed for image extraction and processing, with students' details catalogued and trained into the system for seamless recognition. As class or work hours approach, individuals simply present themselves to the device. The system utilizes a Haar cascade classifier to detect faces and the LBPH algorithm for accurate recognition. Upon successful identification, attendance records are automatically annotated, eliminating the need for manual tallying. The system maintains an Excel sheet updated in real-time under the instructor's supervision. At the core of this technological marvel are Eigenfaces, Fisher Faces, and PCA algorithms, which transform facial images into compact yet informative representations for swift and accurate identification. This project epitomizes innovation, blending cutting-edge technology with practical application. Through the synergy of OpenCV, Haar Cascade, Eigenfaces, Fisher Faces, LBPH, and Python programming, a camera-based real-time face recognition system is brought to life. Beyond automating attendance, this innovation promises to enhance productivity across various sectors, ushering in a new era of efficiency in academic and professional environments.	Mr. A. Kumar

33	20691A0577, 20691A0595, 20691A0597,	Brest Cancer Detection using ML	Breast cancer is a category of disease defined by aberrant cell proliferation in the breast, which depending on the features of the cells may be benign or malignant. It rarely affects men and primarily affects women. Clinical scientists are increasingly concentrating on applying Artificial Diagnosis methods to identify, classify, and diagnose cancer cells. The broadly utilized Wisconsin Breast Cancer Dataset from the College of California, Irvine AI storehouse is utilized in this work. This data, encompassing 32 parameters for the evaluation of the proposed framework effectiveness in characterizing breast cancer, the best model from a few common models are selected and a superior ensemble model is created. The performance of the selected model is then enhanced via the Ada Boosting technique. To gauge the proposed model's performance, various metrics like the confusion matrix, F1-Score, accuracy, recall, and precision are employed.	Ms. Ramya Palaniappan
34	20691A0581, 20691A0596, 20691A05B4, 20691A05L7	Hybridized Emotional Recognition in Telugu Text: A Machine Learning and Deep Learning Approach Integrating Multiple Modules for Enhanced Sentiment Analysis	The burgeoning field of sentiment analysis within Natural Language Processing (NLP) has underscored the importance of adeptly deciphering emotions across diverse linguistic landscapes. The main focus of this research is to improve the ability to recognize emotions in Telugu texts, which is a language that is primarily spoken in the Indian states of Andhra Pradesh and Telangana. Our study introduces a pioneering hybrid approach that synergistically marries the analytical prowess of machine learning (ML) and deep learning (DL) techniques to elevate sentiment analysis in Telugu, a language that, despite its vast speaker base, has seen limited exploration in this domain. While significant strides have been made in emotion recognition within well-documented languages such as English, French, Chinese, and Arabic, languages with lesser digital resources like Telugu have not received parallel attention. Addressing this gap, our work delineates a comprehensive framework to classify textual emotions into five distinct categories: fear, anger, sadness, happiness, and neutral. This classification leverages an extensive corpus of 35,000 Telugu texts, curated explicitly for this study. Our methodology encompasses the rigorous evaluation of models constructed using three advanced DL architectures Bidirectional Long Short-Term Memory (BiLSTM), Gated Recurrent Unit (GRU), and Recurrent Neural Network (RNN) alongside a suite of ML algorithms. These models undergo meticulous calibration, training, and validation against a publicly accessible emotion dataset. The empirical results from our experiments highlight the superior performance of the Ensemble Machine Learning approach, achieving an F1-score of 67.44% and an accuracy of 74.87%. This remarkable efficacy is attributed to the strategic integration of diverse ML techniques, including Decision Trees (DT), Support Vector Machines (SVM), Random Forest (RF), K-Nearest Neighbors (KNN), and Logistic Regression (LR). By forging a confluence of ML and DL methodologies, our research not only advances the frontiers of sentiment analysis in Telugu but also sets a precedent for future explorations into emotion recognition across under-resourced languages.	Mr. G. Muthugurunathan

| 35 | 19691A0533, 20691A0579, 20691A05A9 | CO2 Emission by Vehicles: An Emprical Analysis | The environmental sustainability and protection from the current age challenge are one of the biggest problems, and it has been found that one of the largest emissions of CO2 in the world is from the automotive sector. This paper follows a large dataset taken from the Canadian Government's open data portal that describes vehicle attributes and corresponding CO2 emissions throughout a seven-year period. We had identified among many other features some major vehicular features influencing emissions with rigorous exploratory data analysis using inferential statistics. This observation is made on the basis that engine size and emissions move in the same direction, while fuel efficiency (in mpg) and CO2 emissions move in the opposite direction. This study has definitely come out with very valuable knowledge to the policymakers, manufacturers, and consumers in their process toward fuel efficient vehicles as an imperativeneed in order to attenuate the global carbon print. Transport emissions, including road, rail, air, and marine transportation, account for a large part of the overall emissions; hence, there is a need to review strategies for managing associated issues and coping withnegative impacts. A simultaneous improvement in economic efficiency can help us achieve our desired objectives in the concerned context. Sharing economy, i.e., a peer-to-peer-based sharing of access to assets, can help reduce the total resources required and consequently reduce carbon footprints. In line with this objective, we propose an intelligent model to study carbon dioxide emissions from road transport using taxi trips in Dublin, Ireland. The proposed method is a hybrid unsupervised learning approach tailored for the particular structure of the problem. We present how an intelligent approach can be implemented to model CO2 emissions from road transport. The model categorizes taxis based on different features related to the emissions they release. Five clusters are detected, which can be attributed to varying levels of emissions. Accordingly, those vehicles labelled as the highest emitters can be targeted for further improvements in reducing CO2, i.e., replacing pollutant cars with electric cars or including them in the taxi fleet as sharing ones only.

 Keywords: CO2 emissions, automotive industry, fuel economy, engine displacement, cylinders, environmental sustainability, data analysis, Canadian vehicle data, fuel consumption, predictive modelling. | Mr. K. Sathish |
| 36 | 20691A0565, 20691A0594, 20691A0598, 20691A05A3 | Identification of Phony Profiles on Social Media Platforms by using Random Forest and Decision Tree Algorithms | In today's era dominated by social media, the need to detect fraudulent accounts on platforms like Social Platforms is increasingly crucial. The project, "Identification of Phony Profiles on Social Media Platform Using Random Forest and Decision Tree Algorithms," employs Python as its main tool to address this challenge. It utilizes two potent machine learning algorithms, the Random Forest Classifier, and the Decision Tree Classifier, to achieve this objective. The Random Forest Classifier delivers outstanding results, achieving perfect accuracy (100%) on the training dataset and an impressive 93% accuracy on the test dataset. Meanwhile, the Decision Tree Classifier also proves its efficacy, with a training accuracy of 92% and a matching test accuracy of 92%.The dataset used in this project consists of 576 records, each defined by 12 distinct features. These features encompass crucial elements of Social Platform profiles, such as profile picture presence, numerical character ratio in usernames, tokenization of full names, numerical | Mr. M. S. P. Durga Rao |

			character ratio in full names, consistency between usernames and full names, bio length, presence of external URLs, account privacy status, post count, follower count, following count, and the final classification of accounts as "Fake" or "Not." By harnessing Python and these sophisticated machine learning models, this project aims to offer a robust and effective solution for identifying fake accounts on Social Platforms. In doing so, it contributes to upholding the platform's integrity and ensuring user security. employs Python as its primary tool to tackle this problem. It leverages two powerful machine learning algorithms, the Random Forest Classifier, and the Decision Tree Classifier, to accomplish this task. Keywords: Python, Decision tree Algorithm, Random Forest Algorithm.	
37	20691A0585, 20691A0591, 20691A05A4	A Novel Machine Learning Approach to Forecast SEPSIS at an Early Stage	Sepsis is a serious condition in which the body responds improperly to an infection. The infection-fighting processes turn on the body, causing the organs to work poorly. With the evolution of machine learning in the biomedical and healthcare sectors, precise analysis of health data has become pivotal for early disease detection, patient care improvement, and public health services. The reliability of a study diminishes when medical data quality is compromised, especially in cases of incomplete information. Additionally, diverse regions exhibit distinct manifestations of certain diseases, leading to suboptimal diagnosis of disease processes. This paper proposes a machine learning algorithm designed to enhance the prediction of sepsis diseases in endemic communities, utilizing modified scoring models based on real-life hospital data. Addressing the challenges posed by incomplete data, a latent factor model is employed to reconstruct missing information. The study focuses on chronic local cerebral atrophy, utilizing both structured and unstructured data from hospitals, applying machine learning algorithms. The analysis of Covid-19 datasets anticipates potential diseases like chronic kidney disease and heart disease. Notably, our work stands out as it uniquely addresses both structured and unstructured health data analytics, a gap in current literature. Comparative to conventional scoring algorithms, our proposed algorithm achieves a calculation accuracy of 99.7%, surpassing disease risk prediction using traditional machine learning algorithms. Keywords: Prediction, Machine Learning, Sepsis, MLP Classifier, Disease.	Mr. K H Shabbeer Basha
38	20691A05E4	Electricity Theft Detection in Smart Grids using Artificial Neural Networks	Smart grids, which provide several benefits like improved energy efficiency, less power outages, and enhanced security, are growing in popularity as a result of the rising need for electricity. Power theft, however, is one of the main issues with smart grids. which costs utility companies a lot of money. Therefore, electric power distribution firms are quite concerned about electricity theft. This study's objective is to provide an efficient method using artificial neural networks (ANNs) for identifying power theft in smart power networks. The suggested method will employ a dataset regarding energy usage that is taken from the well-known online resource Kaggle. Once the data has been pre-processed and inserted into the ANN, it will pick up on pattern recognition and anomalies when consuming it. After training on a dataset of acceptable consumption patterns, the Data	Mr. B. Bhaskar

			containing instances of energy theft will be used to evaluate the ANN model. Test results will be utilized to evaluate the prototype and determine how effective the recommended course of action is. Positive results are what we expected from our proposed ANN-based technique for smart grid power theft detection of 99% Training Accuracy and 99% Validation Accuracy were attained by our method. The performance metrics that will be employed include F1-score, recall, accuracy, and precision. Additionally, the proposed framework, which makes use of Flask Web to make it easier to use and provide a better user interface for outcome prediction. The project's intended outcome is an efficient method for using artificial neural networks (ANN) to detect electricity theft in smart grids, which utility companies may employ to boost revenue collection and enhance smart grid security. This research can potentially be expanded to other domains, such as intrusion detection in computer networks and fraud detection in financial systems, that include anomaly identification in large-scale datasets. Keywords: F1-score, Flash, Recall, Accuracy, Precision, Kaggle and Artificial Neural Network	
39	20691A05D5, 20691A05E6, 20691A05D8	Fraudulent Review Identification via Aspect - Driven Analysis	The huge boom within the number of cellular smartphone users is also increasing using cell programs. Today, customers prefer to go to a cell software in preference to a computer. The purpose is to develop a gadget that makes use of sentiment evaluation and information mining to come across horrific apps earlier than the consumer downloads them. Sentiment analysis helps decide the emotional tone of phrases expressed on-line. This method is useful for monitoring social media and helps to discover public opinion on positive problems. A consumer cannot always find accurate or genuine opinions at the internet. We can recognize the person's emotional comments in many applications. Reviews can be faux or real. By inspecting ratings and opinions, which encompass comments from users and administrators, we are able to determine whether the software is actual or no longer. Using sentiment analysis and information mining, serps can analyse sentiment and sentiment round ratings and different texts. Review manipulation is one of the foremost elements of app score scams. We used LSTM fashions to predict the outcomes.	Mrs. V. Geetha
40	20691A05F4, 20691A05F7, 20691A05H7, 21695A0510	Stock Price Prediction using Machine Learning Techniques	This research introduces an innovative time series prediction system tailored for forecasting stock prices, leveraging advanced data science methodologies. The system, equipped with a user- friendly graphical interface, operates as an independent application. By employing sliding-window optimization, it effectively anticipates the trajectory of stock prices, particularly excelling in predicting highly complex, non-linear time series patterns that conventional models struggle to capture. The study proposes a hybrid approach integrating machine learning algorithms like ARIMA, Linear Regression, and Random Forest classifiers to enhance predictive accuracy.	Mrs. Thripthi P. Balakrishnan
41	20691A05C2, 20691A05G0,	Hydrological Catastrophe Detection	Hydrological disasters, which can cause catastrophic winds and floods, among other tragedies, are one of the most damaging extreme weather occurrences to human life and	Ms. Arya Surendran

	20691A05H6, 20691A05H8	Using Machine Learning	property. Hydrological disasters are among the most devastating natural disasters, yet they are extremely difficult to predict. Research into enhancing hydrological catastrophe warning models has reduced risk, recommended policies, lowered the number of fatalities, and reduced the amount of property damage caused. Over the last two decades, machine learning (ML) approaches have made great progress in creating prediction systems that provide more efficient and cost-effective solutions by mimicking the detailed mathematical representations of the physical processes involved in disasters. The immense benefits and potential of machine learning have resulted in a significant increase in the field's acceptability among hydrologists over time. In this case, the most recent advances in machine learning are applied, comprising Decision Trees, Random Forest, SVM, K-Nearest Neighbor, and Logistic Regression. The algorithms' performance is assessed using the following measurements: Runtime to Perform, Region under the ROC, accuracy, recall, F1-score, Correctness, and Reinforcement. Next, we compare the created prediction models to determine which approach is the most accurate. Comparing these machine-learning approaches yields an efficient result. Keywords: Hydrological Catastrophe, Machine Learning, Accuracy, rainfall, cyclone	
42	20691A05C5, 20691A05F8, 20691A05H5, 20691A05I0	Task Scheduling Algorithms for Cloud Computing Resource Allocation: A Systematic Analysis Environment	Cloud is developing day by day and faces many challenges, one of them is scheduling. Scheduling refers to a set of policies to control the order of work to be performed by a computer system. Scheduling in cloud computing is crucial for optimizing resource utilization, maximizing throughput, and minimizing response time. As cloud environments evolve with increasing complexity and scale, scheduling becomes even more challenging due to the dynamic nature of workloads, heterogeneous resources, and diverse user requirements. One primary challenge in cloud scheduling is resource allocation, where tasks or jobs need to be assigned to appropriate resources such as virtual machines (VMs) or containers. This involves considering factors like resource availability, capacity, and workload characteristics. Moreover, scheduling decisions must often be made in real-time to adapt to changing conditions and priorities. Our proposed hybrid scheduling algorithm integrates Genetic Algorithm (GA), Ant Colony Optimization (ACO), and Analytic Algorithm (AA) to address the challenges of cloud scheduling comprehensively. Genetic Algorithm initiates the process by exploring a diverse range of task-resource assignments, optimizing them iteratively based on predefined fitness criteria. Ant Colony Optimization then refines these solutions by leveraging the foraging behaviour of ants, gradually converging towards optimal or near-optimal scheduling plans through decentralized optimization. Finally, Analytic Algorithm applies mathematical modelling and analysis to ensure SLA compliance and further optimize the scheduling plan if necessary. By synergistically combining the evolutionary exploration of GA, the decentralized optimization of ACO, and the mathematical rigor of AA, our hybrid approach offers a robust solution for cloud scheduling, capable of efficiently managing dynamic workloads, maximizing resource utilization, and meeting stringent performance requirements in modern cloud environments.	Mrs. G. B. Renuka

			Keywords: Scheduling, Ant Colony optimization, Virtual machine, Genetic Algorithm, Analytic Algorithm.	
43	20691A05D3, 20691A05G3, 20691A05G8	Agriculture Crop Selection and yield forecasting using ML Algorithms	In rural India, agriculture is the field that assumes a significant part in improving our nation's economy. India is an agricultural country and its economy generally dependent on crop productivity. Agriculture is the spine of all business in our country. Choosing a crop is vital in Agriculture arranging. The determination of crops will rely on the various boundaries, for example, market value, production rate and distinctive government policies. Numerous progressions are needed in the agriculture field to improve changes in our Indian economy. Improvements in agriculture can be done utilizing machine learning techniques which are applied effectively on cultivating area. To predict yields, a few chosen gadget mastering methods are used, including support vector machine (SVM), ANN, Random Forest(RF). The aim of the proposed system is to carry out the yield determination technique using Decision Tree Regressor, Random Forest with the goal that this strategy helps in taking care of numerous agriculture and farmers issues. This improves our Indian economy by expanding the yield rate of crop production. Keywords: Decision tree, Random Forests(RF), yield forecasting, SVM.	Dr. R. Kalpana
44	20691A05F6, 20691A05G2, 20691A05G9, 20691A05H1	A Mobile Application for Digital Consultation and Diagnostics - Revolution in Healthcare for Rural India	Medical care is very crucial to live a healthy life and at the same time, it is very difficult to take proper health care for any issue. Digital diagnostics and consultations use technology to improve patient care and expedite medical procedures, providing a revolutionary approach to healthcare. By using virtual consultations, patients can communicate with medical professionals from a distance, removing geographical restrictions and improving access to medical knowledge. This makes it possible for prompt consultations as well as proactive healthcare management even in Rural India. To Make this job easier and aid people through remote online Consultation, we have Built Mobile Application using RNN. It will observe the disease, produce a relevant information and prescribe accordingly. This Mobile Application works as a medical mentor and make patients understand their health condition and with the medication. Taking the text and images of symptoms as an input, health reports are given to patients. The mobile application chatbot can accurately identify diseases and offer suitable information. A text-to-text and image based diagnostic bot facilitates communication with patients about their medical concerns, delivering appropriate medical support based on their symptoms and helps patients skip unwanted lab tests and other expensive treatments, Augment in-person care to reduce the need for in person visits with improved accuracy in Analysis and reduces waiting time.	Dr. R. Nidhya
45	20691A05D9, 20691A05H0, 20691A05H4	Comparative Analysis of Machine Learning Algorithms for Lung Cancer Classification	Improving patient outcomes from lung cancer requires early diagnosis, and machine learning approaches have emerged as promising tools to help with this endeavor. The performance of five machine learning algorithms k-Nearest Neighbors, Random Forest, Naive Bayes, Decision Tree, and Support Vector Machine for the categorization of lung cancer was compared in this work. We observed that Random Forest algorithm got the	Dr. G. Arun Kumar

			highest overall accuracy of 91.6 using a dataset of lung cancer data, followed by the Support Vector Machine approach with 88.8. Although these findings point to Random Forest's promise as a useful tool for accurately classifying lung cancer, more validation using bigger datasets is required to guarantee Random Forest's resilience for clinical application.	
46	20691A05D0, 20691A05E1, 20691A05E2, 20691A05E8	Detection and Classification of Brain Tumour using CNN	Brain tumors are a serious health concern that can affect people of all ages. Accurate classification of brain tumors is essential for treatment planning, considering their varied types, locations, and textures. Although brain cancers can be distinguished using Magnetic Resonance Imaging (MRI), the volume of data makes manual analysis labour-intensive and prone to errors. Researchers have turned to deep convolutional neural networks (CNNs) to address this challenge. These advanced models have made significant progress in image classification. Deep CNN for Brain Tumor Classification. Scientists developed a new brain tumor classifier using CNNs (artificial intelligence) and achieved better results than previous methods on multiple datasets. By leveraging CNNs, it automates tumor identification without requiring prior segmentation during pre-processing. Building on existing work, another project tackles early brain tumor detection using CT scans. The approach starts with essential pre-processing steps to optimize the images for analysis. This review explores recent progress in using CNNs to detect brain tumors. It also introduces a new CNN model for classifying brain tumors, achieving better performance than existing methods on three datasets. A well-designed Convolutional Neural Network (CNN) model then takes centre stage, tasked with identifying potential tumor regions within the scans. This system exhibits promising performance, achieving a remarkable 98.7% accuracy in detecting tumors during the training phase. Early detection remains critical, as brain cancer symptoms often emerge only at advanced stages. Advances in AI and medical imaging hold promise for better outcomes in managing this challenging disease. Keywords: CNN, Brain Tumor, Machine Learning, Accuracy, MRI, CT scans.	Dr. R. Sudhakar
47	20691A05D2, 20691A05D4, 20691A05E9, 20691A05G1	An Improved Self Learning Management System using Modern next JS	The demand for advanced Learning Management Systems (LMS) has surged in the aftermath of the COVID-19 pandemic. This paper introduces the development and deployment of a comprehensive LMS solution, utilizing Next.js, SQL, Tailwind CSS, Node.js. Our platform offers seamless navigation, interactive features, and robust data management. Notably, the system incorporates AI capabilities for multiple person detection during quizzes, enhancing security and integrity. Additionally, sophisticated data visualization tools provide valuable insights for personalized feedback. The software system that powers the e-learning services makes all of the course materials electronically accessible to all students via the Internet at any time and from any location. Since the way an e-learning system is designed and developed affects how the system is used, it is an essential component of education. Keywords: Learning Management Systems, Next.js, SQL, Tailwind CSS, Node.js, Web Development, AI Integration.	Dr. K. Sudhakar

48	20691A05F0, 20691A05F1, 20691A05H2	Classification and Identification of Weapons using DL	Nowadays, security has become a concerning issue due to a significant increase in weapons among humans, leading to a lack of protection for the common people. The count of weapon related incidents has consistently exceeded 250,000 and more than 85% of the guns are in civilian hands. Even though surveillance cameras are present everywhere, from our homes to shopping malls to banks, they do not have accurate automatic weapon detection. The detection and identification of weapons play a vital role in public safety. To overcome this security issue, advancements in technology can be utilized to take timely actions and prevent crimes. This model proposes an improved weapon recognition system utilizing You Only Look Once version 8 (YOLOv8) for object detection and Convolutional Neural Networks (CNNs) for classification. By combining the strengths of both algorithms, the system demonstrates superior performance compared to existing methods. The speed per outline was 0.010 s, compared to the Quicker R-CNN's 0.17 s. It looks promising to use it for weapon identification and well-being.	Dr. D. J. Ashpin Pabi
49	20691A05C6, 20691A05D6, 20691A05E7, 20691A05H3	Speech Recognition and Translation using Machine Learning	The advancement of human species in technical field is parallel to the development of civilizations and resulted in multiple languages as a medium of communication. Such an advancement also made it difficult for the people to communicate as each civilization has different languages. We have almost tried all the methods of language translation and almost achieved the state of art (top class) results. We have adopted a method of machine translation (usage of machine learning for translation) which happens in the server side and helps the users to translate by sending a GET or POST request through JQuery and translating the data. This can be accomplished by three steps: • Speech recognition (conversion of spoken words to text) • Translation using machine learning • Speech synthesis (conversion of translated text to audio). Keywords – Speech recognition , Translation , Machine learning , Speech synthesis , JQuery.	Dr. S Elango
50	20691A05C4, 20691A05C8, 20691A05C9, 20691A05G7	Detection of cyber bullying on social media using Random Forest Algorithm	Cyberbullying is a major problem encountered on internet that affects teenagers and also adults. It has lead to mis happenings like suicide and depression. Regulation of content on Social media platforms has become a growing need. The following study uses data from two different forms of cyberbullying, hate speech tweets from Twittter and comments based on personal attacks from Wikipedia forums to build a model based on detection of Cyberbullying in text data using Natural Language Processing and Machine learning. Three methods for Feature extraction and four classifiers are studied to outline the best approach. For Tweet data the model provides accuracies above 90% and for Wikipedia data it gives accuracies above 80%.	Dr. R. Sundar
51	20691A05G6	Tours and Travels Management with Time for Visit taken as a	The Online Tours and Travels Booking System project is to create a system that automates travel-related procedures and activities. It also aims to establish a system that can be used for all travel-related tasks. The goal of this project is to create a user-friendly booking and service portal for hotels that benefits both management and guests. This website offers	Dr. S. Sathya

		factor and Hospital Management	comprehensive information about tourist destinations, including a map of the area, amenities, and contact information. Users that travel across the nation can obtain information about various hotels with ease. The system primarily shows traveller information, such as several destinations, amenities, a map of the area, phone numbers, etc. This displays images and a video gallery of a tourist attraction. Keywords: PHP, MySQL, JAVASCRIPT, AJAX	
52	20691A05C3, 20691A05F2, 20691A05F9, 20691A05G4	Activity Recognition for Real Time Communication Drivers: A CNN Approach	Human Activity Recognition (HAR) is a critical component of behavioral science that may be applied to stationery or portable equipment. HAR has been extensively researched, examining several approaches to computer-aided human identification. The overview of this project discusses all the research conducted on various computer techniques to identify human actions, with a particular emphasis on two types of techniques named Convolutional Neural Networks (CNNs) and Long Short-Term Memory (LSTM). We may train computers to detect various activities, such as yoga positions or daily motions, by utilizing cameras to collect data. The primary objective is to record user movements and actions over time so that the computer can learn how to interact with users. With the use of this technology, we want to enable individuals to conduct self-help activities like yoga without the assistance of a third party. Our approach involves the use of specialized computer algorithms, such as CNN (VGG16) and LSTM, to precisely distinguish and classify various positions and behaviours captured in images. Keywords: Vgg16, Deep Learning, Convolutional Neural Network (CNN), HAR, Long-Short Term Memory (LSTM).	Mr. Mohan.M
53	20691A05D1, 20691A05E0, 20691A05E3, 20691A05F3	Enhancing Emergency Medication Decisions with Machine Learning based Adaptive Drug Recommendation System	Machine learning, our project proposes disease prediction system and drug recommending system. For small problems, the users have to go personally to the hospital for check-up which is more time consuming and also handling the telephonic calls for appointments is quite hectic. Such a problem can be solved by using disease prediction application by giving proper guidance regarding healthy living. Over the past decade, the use of the specific disease prediction tools along with the concerning health has been increased due to a variety of diseases and less doctor-patient ratio. Thus, in this system, we are concentrating on providing immediate and accurate disease prediction to the users about the symptoms they enter along with the severity of disease predicted. In one channel, the symptoms entered will be crosschecked with the database. Further, it will be preserved in the database if the symptom is new which its primary work is and the other channel will provide severity of disease predicted. A web/android application is deployed for user for easy portability, configuring and being able to access remotely where doctors cannot reach easily. Normally users are not aware about all the treatment regarding the particular disease, this project also looks forward to providing medicine and drug consultation of disease predicted. Therefore, this arrangement helps in easier health management.	Mr. Syed Abuthahir S

54	20691A05C7, 20691A05D7, 20691A05F5, 20691A05H9	Comprehensive Skin Disease Detection using AI	Skin diseases affect a significant portion of the global population, underscoring the need for efficient and accurate diagnostic tools. This research presents an innovative solution for the automated detection and classification of multiple skin diseases using deep learning techniques. Leveraging the power of Convolutional Neural Networks (CNNs), the proposed system analyzes dermatological images to discern distinct patterns associated with various skin conditions. The primary objective is to offer a reliable and non-invasive diagnostic tool that aids dermatologists in their clinical decision-making process. The project begins by curating a comprehensive dataset comprising images representing a diverse array of skin diseases, meticulously annotated with corresponding labels. A custom-designed deep neural network architecture is then trained on this dataset to recognize intricate patterns and features indicative of different dermatological ailments. Rigorous evaluation metrics, including accuracy, precision, recall, and F1 score, are employed to assess the model's performance on an independent dataset. The significance of this research lies in its potential to revolutionize dermatological diagnostics, providing a rapid and accurate means of identifying multiple skin diseases. By automating the diagnostic process, the proposed system not only expedites the assessment of skin conditions but also has the capacity to extend healthcare accessibility, particularly in regions with limited dermatological expertise. This contribution aims to bridge the gap between traditional diagnostic methods and emerging technologies, ultimately improving patient outcomes and fostering advancements in dermatological healthcare.	Mr. B. Galeebathullah
55	20691A05J3, 20691A05J5, 20691A05J6, 20691A05K8	Dynamic Sign Language Recognition through an Ensemble of Deep Learning Techniques	The realm of human-computer interaction is perpetually evolving, seeking more intuitive and natural methods of communication. Among these, sign language recognition stands as a critical area, offering a bridge for the deaf and hard-of-hearing community to interact seamlessly with digital systems. The recognition and interpretation of American Sign Language (ASL) using computational methods stands as a significant advancement in bridging communication gaps between the Deaf community and the hearing world. Our methodology encompasses the collection and preprocessing of a comprehensive dataset consisting of ASL signs, Utilizing state-of-the-art CNN architectures, the system undergoes rigorous training and validation phases to ensure high levels of accuracy and efficiency. Each sub-model specializes in capturing different temporal and spatial features inherent in sign language gestures. The proposed ensemble approach effectively mitigates overfitting and improves generalization by combining the strengths of individual models. Extensive experiments conducted on benchmark sign language datasets demonstrate superior performance compared to standalone models. Additionally, the ensemble model exhibits robustness to variations in lighting conditions, hand orientations, and background clutter. The results highlight the efficacy of ensemble deep learning techniques in dynamic sign language recognition, promising advancements in accessibility and inclusivity for the deaf community. This project aims to develop an accurate and by employing deep learning techniques, we propose a model that interprets ASL signs from static images and video	Mr. Gandi Ramakrishna

			sequences, enabling seamless translation of sign language gestures into textual or spoken language	
56	20691A05J2, 20691A05K0, 20691A05M2, 20691A05M6	Exploring Machine Learning for Predicting Multiple Health Conditions	In the realm of healthcare, the early detection and accurate diagnosis of multiple diseases are paramount. Leveraging emerging technologies like machine learning, this study addresses the challenges and trends in disease detection. Key issues such as integrating diverse data sources, interdisciplinary collaboration, model explainability, scalability, and generalization are discussed. The project aims to predict the risk probability of individuals developing diseases like Brain Health, Cardiovascular Diseases, Vision Impairment, Diabetes, and Cancer. Through advanced machine learning techniques and comprehensive datasets encompassing various symptoms and health indicators, the study aims to develop a robust prediction model. Emphasis is placed on timely and cost-effective diagnosis, considering environmental, lifestyle, and demographic factors. By enhancing prediction accuracy and addressing global health challenges, the project seeks to contribute to the early detection and prevention of major diseases on a broader scale. Keywords: healthcare, disease detection, machine learning, early diagnosis, prediction model, interdisciplinary collaboration, data integration, explainability, scalability, global health challenges.	Mr. J. Nagaraj
57	20691A05K6, 20691A05L8, 20691A05L9	Effective Reconstruction of Back projection Images through Attention Mechanism.	Compared to time-domain photoacoustic imaging, frequency-domain photoacoustic (FDPA) imaging has much more potential in a clinical setting because of its smaller size and lower cost. Elements. However, because of its poorer signal-to-noise ratio, the FDPA system requires sophisticated image reconstruction techniques. In FDPA imaging, most image reconstruction techniques rely on analytical or model-based schemes. This work developed an image reconstruction technique based on deep learning that can directly reconstruct backprojection images and enhance their quality. This architecture was inspired by U Net, which uses attention gates at the skip connections and a sequence of encoders and decoders after that. A comparison is made between the outcomes and direct translational networks built on vanilla U Net. By using our proposed model, we observed an improvement of about 10% on both PSNR and SSIM metrics. Keywords: Photoacoustic Imaging, Frequency Domain, Deep Learning, U-Net, Attention	Mr. M. Rajasekaran
58	20691A05J1, 20691A05L5, 20691A05M7, 20691A05N0	Identifying patterns and Trends in campus placement data Webapp Report	This project aims to revolutionize the placement process for universities and students by leveraging advanced data analytics and machine learning models. Key features include resume-to-placement prediction, where users upload resumes for data extraction and placement forecasting, accompanied by tailored suggestions and tips. The platform showcases comprehensive data analytics and insights through visually stunning charts and animations, highlighting critical factors influencing placements. Additionally, it provides general information through graphs depicting trends such as job opportunities, layoffs, and the IT workforce's status. Universities can predict students' placement probabilities by submitting data in a predefined Excel format, facilitating targeted support for employability enhancement. Economic insights on on-campus placements further enrich	Mr. S. Srinivas Kumar

			the platform's offerings. By employing advanced machine learning models like logistic regression for placement prediction and random forest for salary estimation, the project aims to provide innovative solutions to improve placement outcomes. Through a user-friendly website and unique features, the project endeavours to enhance the placement process and empower universities to support student success effectively. Keywords: Front End Application, Backend Application, Microsoft Excel, Machine Learning, Git, Docker Hub, CGPA, Technical Skills, Salary.	
59	20691A0586, 20691A05I5, 20691A05K4, 20691A05M5	Optimizing Spectroscopy Spectrum Classification with Dimensionality Reduction based low dimensional space analysis	Spectroscopy is a vital analytical technique that is particularly useful for measuring the interaction of particles with light, which includes biomolecules. This technique, essential for determining the composition, properties, and concentration of samples, leverages the absorption, reflection, or emission of light. The non-destructive, rapid, and noncontact nature of spectroscopic analysis renders it invaluable in chemometrics, despite the challenge posed by the high-dimensional nature of spectral data. Traditional classification models, employing both linear and nonlinear approaches for Dimensionality Reduction (DR), often falter in accurately encapsulating the complex spectral features or in handling the data's inherent nonlinearity efficiently. To surmount these obstacles, we propose a novel Hybrid model that combines Uniform Manifold Approximation and Projection(UMAP) with the Extra Trees(ET) algorithm. This model is adept at extracting pertinent features and navigating the nonlinear complexities of spectral data. Our investigation compares this method against four established nonlinear DR techniques in the analysis of spectral data, specifically focusing on COVID19 spectra pertaining to various applications. We rigorously evaluate the classification efficacy of each method, where our proposed strategy showcases superior performance. It achieves an accuracy exceeding 94% and Matthew's correlation coefficient (MCC) nearing 1 across six differentiated low-dimensional representations of the dataset. Additionally, the model achieves a nearly flawless trustworthiness score, demonstrating its ability to maintain the validity of high-dimensional spectral correlations in the space with less dimensions.	Mr. Mohamed Yousuff A.R
60	20691A05I9, 20691A05J0	Harnessing Random Forest for Banking Fraud Detection through ML	This work introduces detecting banking fraud as a critical challenge in the financial industry. Fraudulent activities can lead to significant financial losses and damage a bank's reputation. Traditional rule-based systems for fraud detection often struggle to keep pace with the rapidly evolving methods employed by fraudsters. We explore the application of the Random Forests algorithm, a powerful machine learning technique, for banking fraud detection. Random Forests offer the advantage of handling large, complex datasets while providing robustness against over fitting. By outfitting the group learning abilities of Arbitrary Woodlands, we intend to upgrade the precision and productivity of misrepresentation discovery frameworks in the financial area. Through comprehensive experimentation and evaluation, we demonstrate the effectiveness of our approach in identifying fraudulent activities with high precision and recall rates. This research focuses on addressing the challenge of detecting banking fraud, a significant concern in the	Mrs. M. Bommy

			financial industry. Conventional rule-based frameworks battle to stay aware of advancing extortion methods.	
61	20691A05G5, 20691A05L1, 20691A05L2, 20691A05L4	Machine Learning Approaches for Real Time Smoking Detection through Biosignal Analysis	This work is to employ machine learning methods to identify smoking by analysing bio signals. We want to develop a robust model that can accurately identify smoking habit by utilizing physiological signals such as skin conductance, breathing patterns and heart rate variability. The proposed approach comprises data collection from wearable bio sensors, bio signal preprocessing and machine learning based data classification. With potential applications in public heath time, treatments and smoking cessation programs, the objective is to provide real – time, non – intrusive means of tracking smoking patterns. Our study extends the relationship between bio signal analysis and machine learning for behavioural monitoring by tackling a significant health issue. Using a range of machine learning algorithms, including logistic regression and there is support vector machine(SVM), also decision trees and random forests and artificial neural networks(ANN), the study investigates many approaches for smoking detection. Furthermore, to enhance model performances, feature selection techniques including variance inflation factor(VIF) and mutual information – based feature selection(MIC) are applied. Keywords: categorization, smoking habit, decision trees and machine learning.	Mr. Aleemullakhan Pathan
62	20691A05K2, 20691A05N2, 20691A05N3	Aircraft Engine Remaining useful Life Prediction	Conventional approaches of estimating remaining useful life (RUL) in the area of heavy machines and health sector machines depend substantially on particular details regarding degradation processes of fundamental elements, that can often be rendered harder by absence of proper physical or expert models. In this paper, a new anticipatory preservation plan, focused on data-centred methodology has been elaborated upon which leverages convolutional neural networks with deep connections (DCNNs). For better the collection of features by DCNN, an individual time framing technique is utilized for sample preparation. Avoiding the demand for prior experience in forecasting and the processing of signals simply employing raw data collected with standardization as feeds for the networks renders this technique a lot simpler than before. The suggested technique displays an outstanding predictive accuracy when tested using the widely used C-MAPSS database on aero-engine unit forecasting during experiments. Compared against existing methodologies and up-to date outcomes obtained from the same information set, these findings show that the suggested approach fares better. It may be extrapolated form the above results which the newly developed framework for data-driven based prediction approach provides an optimistic future in this area already congested with other studies. Keywords: Turbofan Engine, C-MAPSS, Convolutional neural network, Remaining Useful Life.	Mr. Ch. Hemanand
63	20691A05K1, 21695A0505	Price Voyage: Discover the Best Value for any purchase along with AI based Recommendation	As the current e-commerce platforms offer diverse features for purchasing products, comparing prices, offers, and quality across these platforms remains a time-consuming process. This project introduces an innovative web application designed to efficiently extract essential details for any product from various e-commerce websites. The	Mr. Thangarasan T

			application employs web scraping through Selenium, implemented on the Python framework, incorporating advanced algorithms and techniques outlined in this paper. Additionally, the system integrates an AI-based recommendation system to enhance user experience and facilitate informed purchasing decisions. Furthermore, robust user authentication is ensured through the implementation of secure hashing techniques. The proposed solution aims to streamline the user journey, presenting graphical comparisons of product details, simulation results, and personalized recommendations, ultimately enabling users to make well-informed and satisfying purchases with minimal effort. Keywords: E-Commerce, Product Recommendation, Python Programming, Recommendation, E Selenium, Web Scraping.	
64	20691A05I8, 20691A05J4, 20691A05L6	Brain Tumor Detection Using Deep Learning (CNN)	Brain is the most important organ in human body. Abnormal division of cells and their growth in the causes Brain tumor. And the progression of brain tumor may lead to cancer. Detection brain tumor in early stages is one crucial step. By detecting in early stages, we can prevent from causing cancer. So, without depending on the experts for the detection of tumor, deep learning can be used in identifying brain tumor. To diagnose brain tumor Magnetic Resonance Imaging (MRI) is used. A large quantity of dataset is needed to achieve results effectively. Convolutional Neural Network (CNN) is used for Glioma, Meningioma, Pituitary, and no tumor image categorization. Achieved an overall accuracy of 99% when tested.	Ms. S. Sowmyadevi
65	20691A05I1, 20691A05M0	Smart Agriculture Yield Prediction using ML	The industry that has the biggest impact on strengthening the economy of our nation is agriculture. It was agriculture that first led to civilization. Being an agrarian nation, crop productivity plays a major role in India's economy. So, it is possible to argue that agriculture serves as the foundation for all business in our nation. Every crop's selection is crucial to agricultural planning. The choice of crops will be influenced by a number of factors, including the pace of production, market price, and various government regulations. Among the difficulties farmers have are: (i) Adapting to changing climate conditions brought on by emissions from industry and soil erosion (ii) Crop growth may be hindered by nutrient deficiencies in the soil, which are brought on by a lack of essential minerals including phosphorus, nitrogen, and potassium. (iii) Farmers commit an error when they plant the same crops year after year without attempting new varieties. To make changes in our Indian economy, the agriculture sector needs a lot of modifications. Using the dataset, the research compares several supervised learning methods, including Random Forest, Decision Tree, and KNN. The Entropy and Gini Index are the two criteria used to calculate the model's performance for the Decision Tree and Random Forest Classifier. The findings show that the precision, recall, and F1 Score of the recommended machine learning technique are compared to the best accuracy.	Mr. Anandaraj B
66	20691A0543, 20691A0568,	Detection of Stress in IT Employees Using ML	Stress is the conventional thing in every IT professional. Stress has become a major issue for IT people, due to increased competition, the evolution of various technologies, high	Mrs. V. Nirupa

	20691A05K3, 20691A05M8		demand, targets and prolonged working hours. As per research, 74% of Indians were suffering from stress. Of that, 57% of respondents were suffering from mild stress, 11% were feeling moderately stressed, 4% were facing moderately severe symptoms of stress and 2% reported severe stress. In the USA, 54% of women are suffering and 47% of men from workplace stress. Stress mainly manifests in different factors such as workplace stress, financial issues, working hours, job role, physical & mental exhaustion, anxiety and depression. It is crucial to detect the stress in IT employees and take necessary measures to avoid stress for a healthy and happy life. The major objective to detect stress in IT employees is to lessen the chances of physical and mental exhaustion of IT employees. Recognition of Stress includes various ways like surveys, physiological recordings, digital footprints, wearing biometric devices etc. Machine Learning helps us to discover the stress levels of IT employees efficiently. A survey is carried out involving lecturers, IT professionals, and college students to get insights into managing stress levels. The machine learning model is trained and tested with heterogeneous machine learning algorithms. The model is deployed using one of the famous frameworks i.e., Flask. By this model, IT employees can find out their stress levels. A chatbot is integrated to give suggestions to supervise stress in IT employees using the Tidio App.	
67	20691A05J9	Accuracy Enhancement Plant disease detection using CNN Algorithm	In the agriculture sector, one of the major problems in the plants is its diseases. The plant diseases can be caused by various factors such as viruses, bacteria, fungus etc. Most of the farmers are unaware of such diseases. That's why the detection of various diseases of plants is very essential to prevent the damages that it can make to the plants itself as well as to the farmers and the whole agriculture ecosystem. Regarding these practical issues, this research aimed to classify and detect the plant's diseases automatically especially for the tomato plant. As per the hardware requirement, Raspberry Pi is the major computing unit. Image processing is the key process of the project which includes image acquisition, adjusting image ROI, feature extraction and convolution neural network (CNN) based classification. Here, Python programming language, OPENCV library is used to manipulate raw input image. To train on CNN architecture and creating a machine learning model that can predict the type of diseases, image data is collected from the authenticated online source.	Mr. P. Kaliyamoorthi
68	20691A05I2, 20691A05J7, 20691A05K9, 20691A05M1	Flight Fare Prediction using Machine Learning	This research paper gives an ideal way of robust flight ticket prediction model based on the Random Forest Regressor algorithm. The model is designed to accurately forecast flight ticket prices by leveraging the strengths of ensemble learning and handling complex relationships within the data. The Random Forest Regressor's ability to capture non-linear patterns and mitigate overfitting makes it an ideal choice for predicting the dynamic and multifaceted nature of flight ticket pricing. The goal is to develop a trustworthy tool that can accurately predict travel costs by taking into account a number of information, including but not limited to flight routes, departure and arrival times, airline companies, and more. By allowing for better-informed price choices and helping clients budget for	Mrs. R. Usha

			their vacation, the suggested approach intends to benefit both travel agents and airlines. A number of measures were used to assess the model's performance during the extensive testing process. These included the R2 score, Mean Squared Error (MSE), Root Mean Squared Log Error (RMSLE), Mean Absolute Percentage Error (MAPE), and Mean Absolute Error (MAE). Keywords: Airfare price, Machine Learning, Regression Models, Python libraries, Techniques, Prediction models, Pricing models	
69	20691A05I3, 20691A05I7, 20691A05M3, 20691A05M9	Supervised and Unsupervised Machine Learning based Review on Diabetes Care	Diabetes is caused by an excess of sugar that has collected in the blood. It is currently regarded as one of the world's most deadly illnesses. This fatal disease affects people worldwide, whether they are aware of it or not. Diabetes can also lead to heart attacks, paralysis, renal failure, blindness, and other complications. For predicting and assessing Diabetes, several computer-based detection methods were built and defined. The traditional way of detecting diabetes people takes more time and money. However, with the advancement of machine learning, we now have the potential to design a solution to this complex problem. As a result, we created an architecture to predict whether that patient has Diabetes or not. We employed the Pima Indian benchmark dataset, which can predict the onset of Diabetes based on diagnostics. Random Forest indicates a considerable improvement with a maximum accuracy rating of 90.4 percent prediction rate for a particular cross validation test. According to international medical studies, Diabetes is one of the fastest-rising illnesses. By 2050, the world's diabetes sufferers will number 700 million, implying that one out of every 20 persons will be diagnosed with the disease. Diabetes is India's fastest-growing illness, with 70 million cases reported in 2017 and expected to double by 2025. It can happen for various reasons, including viral infection, chemical content mixing with food, pollution in the environment, eating habits, dietary changes, and many more. Many aspects of scientific study are being adapted due to the fast growth of current technology. Many machine learning studies have predicted Type 2 Diabetes without the requirement for medical examinations. In this study, data was examined using several algorithms to prevent risk factors for type 2. Consumption of vitamin C may grow A1C when tested by electrophoresis, but levels may appear to fall when tested by chromatography. According to most studies, an increase in white blood cell count during hypertension is caused by chronic inflammation. A family history of Diabetes has not been linked to BMI and insulin. However, an increased BMI is not associated with abdominal obesity. A single parameter is ineffective in accurately diagnosing Diabetes and can lead to poor decision-making. We must combine various parameters to predict Diabetes at an early stage effectively	Mr. B. S. H. Shayeez Ahamed
70	20691A05I4, 20691A05L3, 20691A05M4,	Neurovascular Crisis Prediction using ML	Neurovascular crises, particularly strokes, present a significant challenge in public health, necessitating early detection and intervention to minimize adverse outcomes. In this study, we propose the development of a machine-learning model for the early prediction of neurovascular crises. Leveraging a diverse dataset comprising medical records,	Mrs. Deepthi. P

	20691A05N1		demographic information, and lifestyle factors, our model employs advanced machine learning algorithms, including logistic regression, support vector machine (SVM), decision trees, and random forest. Through rigorous testing and validation, our approach aims to analyze and identify key risk factors associated with neurovascular crises. The predictive model offers valuable insights for healthcare professionals, enabling personalized patient care and targeted risk reduction strategies. With its potential to improve early detection and intervention, our model represents a significant step towards enhancing public health outcomes in the realm of neurovascular disorders. The achieved accuracies of the model are as follows: Logistic Regression - 80.31%, SVM - 76.70%, Decision Trees - 92.78%, and Random Forest - 95.06%.	
71	20691A05K5, 20691A05K7	Deep Learning algorithms for the detection and classification of Pneumonia in chest X-Rays	The aetiology of pneumonia, a respiratory illness, is viruses or bacteria. This is a widespread problem, particularly in emerging and undeveloped nations where unhygienic living conditions, overcrowding, and poor health facilities are commonplace. Pleural effusion is a disorder that can result from pneumonia that causes fluid to fill the lungs and impair breathing. To enhance survival chances and offer effective treatment, As soon as possible, pneumonia has to be identified. The most typical diagnostic method for determining pneumonia is a chest x-ray. Nonetheless, chest X-ray tests are difficult and prone to subjectivity. Through the use of chest X-ray pictures, we have developed an automatic diagnostic system based on computer science that can identify pneumonia. We used deep transfer learning Four distinct transfer learning strategies were used to build a convolutional neural network (CNN) model in order to get around the data scarcity: RNN, VGG16, CovXNet, and further. The accuracy produced by using the current ResNet 50 approach is insufficient and tends to increase. Thus, this approach is suggested in addition to other transfer learning techniques. Using pneumonia X- ray datasets that the public may access, The suggested approach was evaluated. Keywords: pneumonia, chest X-ray pictures. CNN, RNN, CovXNet, VGG16, and Deep Learning.	Mrs. Sangeetha .M

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Project Coordinator

Head of the Department