	Dept: MCA	**Guide:Dr. JOTHIMANI K**	AY : 2023-2024
Project No	**Project title :REVOLUTIONIZING HEALTHY LIVING: IMAGE GUIDED CULINARY CHOICES WITH TEXT-TO-SPEECH INTEGRATION**	**Students Name :AKASH C BHAT 4VP22MC001**	
1	Abstract: The goal of the suggested system is to improve home cooking by utilising an advanced recipe recommendation system. Inspired by the COVID-19 pandemic's increased tendency toward home-cooked meals, this project tackles the lack of efficient and nutritious recipe platforms. The system recognises ingredients from user-uploaded photos with accuracy by employing Convolutional Neural Networks (CNNs), MobileNetV2 model. This relieves the prerequisite for manual entry and ensures accurate recipe suggestions. Text-to-speech (TTS) technology has been included to provide hands-free recipe instructions, which is especially helpful in improving accessibility in general. The project involves developing a comprehensive collection of healthy recipe instructions and ingredient photos, incorporating TTS for directions, and creating an approachable mobile app with Flutter. Keywords: Convolutional Neural Networks (CNNs), Flutter, MobileNetV2, Text-to Speech.		
2	**Project title :**	**Guide: Mr. Anil Kumar K**	AY : 2023-2024
	PREDICTION AND ANALYSIS OF CARDIOVASCULAR DISEASE USING MACHNE LEARNING	**Students Name :AKSHATHA S 4VP22MC002**	
	Abstract: Heart disease is a serious global health concern, killing a substantial number of people every year. This study looks at how ML techniques can be used to estimate a person's risk of developing cardiovascular disease. The project intends to develop an accurate predictive model by looking at patient demographics, medical history, and lifestyle habits. The project explored numerous methods to get the most accurate predictor, including LR, RF, and GB. The results suggest that RF and GB models perform well in predicting heart disease risk. Healthcare users can use these models to find problems early and help people quickly. Keywords: Early Detection, Heart Disease, LR, ML, Prediction Performance, RF.		
3	**Project title :**	**Guide:Dr. JOTHIMANI K**	AY : 2023-2024
	A SYSTEMATIC ANALYSIS OF BUTTERFLY DIVERSITY USING AUTOMATED WING PATTERN RECOGNITION	**Students Name :ANANYA KEDILA 4VP22MC003**	
	Abstract: Butterfly classification traditionally relies on labor-intensive, costly, and time-consuming physical and molecular techniques. This project aims to simplify species identification using computer vision and machine learning. The Structural Similarity Index Measure (SSIM) and		

	Feature Similarity Index Measure (FSIM) were used for feature extraction. FSIM is based on phase congruency and image gradient magnitude, while SSIM evaluates luminance, contrast, and structure. Comparing 10 butterfly species, machine learning mod els using SSIM and FSIM achieved high accuracy, with logistic linear classifiers reaching 100%. The results demonstrate the potential of these methods to streamline and enhance butterfly species identification. Keywords: Butterfly classification, Feature extraction, Image analysis, Species identif ication		
4	**Project title:**	**Guide:Dr. JOTHIMANI K**	AY: 2023-2024
	A SMART APPROACH TO WATER RESOURCE MANAGEMENT THROUGH IOT CROP MONITORING SYSTEM	**Students Name: ANIRUDHA B G SOMAYAJI 4VP22MC004**	
	Abstract: The agricultural sector is vital for sustaining human existence by providing essential re sources, but it faces significant challenges in rural India, including water scarcity, soil fer tility depletion, and unpredictable weather. This paper proposes an IoT-based crop monitor ing system to address these issues. Integrating soil moisture, rain, temperature, humidity, and pH sensors with a NodeMCU ESP8266 microcontroller, the system optimizes crop irrigation and resource management. Utilizing real-time data gathering and the Blynk ap plication for remote monitoring, the system enables informed decision-making and efficient water quality measurement. Despite benefits like enhanced resource management and real time crop health monitoring, challenges include environmental risks and maintenance in remote areas. The potential of IoT-based solutions in agriculture highlights the need for further research and implementation. Keywords: Agricultural sector, Crop monitoring system, Sensors, Microcontroller		
5	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	AGRICOPIA: CULTIVATING SUSTAINABLE FUTURE	**Students Name :ANKITH KUMAR P 4VP22MC005**	
	Abstract: Agricopia is a cutting-edge online tool created to give farmers vital information on crop demand, market pricing, and suggested fertilizer. To ensure a solid and scalable design, the project includes Express.js and Node.js for backend operations, MongoDB for its database, and React.js for the frontend. Agricopia's two main parts are the User module, which gives farmers individualized advice and real-time information, and the Admin module, which lets administrators maintain and update crop and market data. Agricopia wants to close the information gap in agriculture by using real-time data and sophisticated analytics to improve decision making skill, maximize their yields, and strengthen their financial sustainability. Because the platform can be accessed on mobile devices, important agricultural insights are always available. This project adds to the general profitability and resilience of the farming community by marking a substantial advancement towards efficient and sustainable agriculture techniques. Agricopia tackles a number of significant issues that farmers confront, such as the challenge of quickly obtaining pertinent information on crop demand, market prices, and the best practices for applying fertilizer. Keywords: Agricultural sector, MongoDB, React, Web Application..		

6	**Project title:**	**Guide: Mr. Anil Kumar K**	AY: 2023-2024
	AN EXPLAINABLE MACHINE LEARNING FRAMEWORK FOR INTRUSION DETECTION SYSTEMS	**Students Name :ANKITHA 4VP22MC006**	
	Abstract: Improve intrusion detection systems (IDS), a unique explainable machine learning ap proach . In addition to accurately detecting malicious activity, the framework combines explainability techniques utilizing sophisticated machine learning techniques to provide transparent and intelligible insights into the decision-making process. Our approach guar antees that security analysts can understand and rely on the model's predictions by utilizing features like SHAP (SHapley Additive exPlanations) values and LIME (Local Interpretable Model-agnostic Explanations). This results in more educated and efficient responses to cyber threats.Showcasing both its excellent performance and the value that interpretability adds to the upkeep of strong security measures. Keywords: Local Explanations, Global Explanations, Cybersecurity, Model Interpre tatio		
7	**Project title:**	**Guide: Mr. Ramesha K**	AY: 2023-2024
	HEALTHCARE DIAGNOSTICS USING MEDICAL IMAGES	**Students Name:APOORVA M 4VP22MC007**	
	Abstract: Healthcare diagnostics technologies have seen major advancements in medical imaging, like X-rays CT scans, MRI, and ultrasound, which are widely used in clinical settings. The addition of AI and ML has further improved these diagnostic methods, particularly in the detection and analysis of brain tumors,by enabling automated analysis and interpretation of images. These solutions have brought about diagnostic accuracy and outcomes.There are challenges of the current state and future potential of medical imaging in healthcare diagnostics for ongoing innovation and collaboration to enhance patient care.This also em phasizes the importance of telemedicine and remote diagnostics,which use medical imaging provide healthcare services to undeserved and remote areas. Ensuring high-quality data, ad dressing ethical considerations related to privacy patient and data security, and integrating these progressive technologies everyday clinical practice are essential challenges that must be addressed.By all these obstacles, the advanced medical imaging techniques in improving the diagnosis and treatment of brain tumors can be realized, ultimately enhancing patient outcomes and the quality of care		
8	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
		Students Name :4VP22MC008	
	Abstract:		
9	**Project title:**	**Guide:Dr. JOTHIMANI K**	AY: 2023-2024
	CODE-PEN CLONE	**Students Name :BHRAMARAMBHA C B 4VP22MC009**	
	Abstract: The Code-Pen clone project is a web-based application designed to offer users a comprehensive platform for creating, editing, and managing web development projects. The		

	application starts with a user login system to ensure secure access. Once logged in, users are directed to the home page, which contains the some guidelines about the code-pen clone editing features and a "Start Coding" button that directs users to the code editing environment. The core of the application is the editing environment, which is equipped with functionalities such as project naming, allowing users to assign unique names to their projects; separate editors for HTML, CSS, and JavaScript, enabling users to write and test their code in real time; and a real-time preview feature that allows users to see the output of their code as they type. Additional features include a save button to ensure no progress is lost and a download button that allows users to download their code files for offline use or backup. Once the coding session is complete, users can securely log out, ensuring their projects and personal information remain protected. This project aims to provide an intuitive and efficient platform for web developers of all levels to experiment, build, and showcase their projects seamlessly. Keywords: Code-pen clone, Editing features, User login system, Web development projects, Web-based application.		
10	**Project title:**	**Guide:Dr. JOTHIMANI K**	AY: 2023-2024
	AN INTELLIGENT FERTILIZER PRESCRIPTION SYSTEM FOR SUSTAINABLE AGRICULTURE	**Students Name :CHIDANANDA 4VP22MC0010**	
	Abstract: The Intelligent Fertilizer Prescription System for Sustainable Agriculture (IFPSSA) is a cutting-edge tool that uses data to inform decisions, revolutionizing agricultural operations. This technology offers farmers customized fertilizer recommendations based on particular soil conditions, crop varieties, and environmental factors through an easy-to-use internet interface and cutting-edge machine learning techniques. React.js is applied to construct the front end of the system, while Python (Flask) is accustomed to develop the back end. This ensures smooth data input, processing, and output presentation. Through an intuitive interface, farmers may enter localized environmental data, such as temperature and rainfall, along with soil factors like pH, temperature, phosphorus, potassium, and nitrogen levels. Following this, the system analyzes the data to provide customized fertilizer recommen dations that maximize crop yields and support environmentally friendly farming methods. The system trains a paradigm for machine learning that looks at these inputs and predicts the best fertilizer compositions using methods from the Scikit-learn package. The solu tion offers farmers precise and efficient fertilizer recommendations by utilizing predictive modeling and strong data analytics to handle significant agricultural issues like soil nutrient variations and precision agriculture. Keywords: Data Analytics, Machine Learning, Smart Agriculture		
11	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	BANKNOTE AUTHENTICATION BASED ON MACHINE LEARNING TECHNIQUES	**Students Name: DEVAIAH A M 4VP22MC0011**	
	Abstract: On the proliferation of fraud currency poses a higher significant threat of global financial systems necessitating the development of robust methods of banknote simulating this project explores the use of various machine learning techniques to create an automated system capable of accurately distinguishing between genuine and counterfeit banknotes leveraging advancements in computer vision and deep learning the proposed system aims to enhance the		

	reliability and power of currency authentication key features of the banknotes are taken using CVT. Focusing on specific patterns textures and security elements such as watermarks holo grams and microprinting algorithms like scale-invariant transform sift and speeded-up ro bust features surf are employed for keypoint detection identifying unique design elements and serial numbers that are crucial for distinguishing genuine notes from counter- feits these properties are then used to trail CNN chosen for their broder image recognition and classification capabilities. The trained models undergo extensive validation and testing to ensure they general- ize well to new unseen data real-time processing capabilities are integrated into a user- friendly application allowing immediate authentication of banknotes captured via cameras or scan ners continuous learning mechanisms are implemented to keep the system updated with new counterfeit techniques and evolving banknote designs maintaining high correctness and validness over time this project demonstrates the potential of ML to significantly im prove banknote on authentication processes providing a scalable and efficient solution or to combat fraudilent currency by subsequently detecting of inherited banknotes the blueprint aims to enhance financial security and protect economies from the detrimental ef- fects of counterfeit currency key wordsmachine. Key Words: CNN,Flask,Machine learning,Tensorflow		
12	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING	**Students Name :DHANYA DEVIDAS NAIK 4VP22MC0012**	
	Abstract: The project utilizes progressive techniques to effectively combat illicit use of card analyzing transaction data to detect suspicious patterns. Leveraging sophisticated including algorithms like decision trees, margin-maximizing classifiers, and Neural network models enhances the certainity of determining unscrupulous transactions while reducing false alarms. Addressing the inherent imbalance in fraud detection datasets involves oversampling minority classes and adjusting class weights to improve sensitivity to rare instances of fraud. Furthermore, robust data preparation and attribute creation extract meaningful insights from transaction details like amount, location, time, merchant category, and user behavior. Real-time fraud detection capa bilities using streaming data processing frameworks enable immediate analysis and action upon incoming transactions, ensuring timely intervention and prevention of fraudulent activities. The model's interpretability provides actionable insights into fraudulent behaviors, empowering fi nancial institutions to proactively combat fraud with informed decisions. Ultimately, it aims to bolster financial security and trust by leveraging advanced technology to stay ahead of evolving fraud tactics in the digital landscape		
13	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	BOUNDARY BREAKERS: PREDICTING CRICKET PLAYER PERFORMANCE WITH MACHINE LEARNING	**Students Name :GAHAN V S 4VP22MC0013**	
	Abstract: For the purpose of strategic planning and game management in cricket, it is essential to predict player performance. Through the use of historical data, this project uses Machine Learning(ML) to forecast cricket player performance. To guarantee consistency and rel evance,		

	the dataset of bowlers and batsman consist of important attributes such as player name, opposition, venue and format. The system uses classification algorithms to clas sify performance levels and regression approaches to predict continuous variables like runs scored and wickets taken. Keywords: Cricket player performance prediction, Classification and Regression, Machine Learning		
14	**Project title:**	**Guide:Mr. Anil Kumar K**	AY: 2023-2024
	IOT - BASED HEAVY METAL MONITORING IN WATER FOR PRECISION AGRICULTURE	**Students Name :GANESH MAHABHALESHWARA B 4VP22MC0014**	
	Abstract: Internet of Things (IoT) solution for precision agriculture focuses specifically on monitoring heavy metal concentrations in irrigation water. Precision farming demands advanced technology, and this research addresses a critical aspect by leveraging IoT to enhance water quality management. The system integrates specialized sensors capable of detecting common heavy metals in agricultural irrigation water. These sensors seamlessly connect to the IoT network, enabling data collection. The collected data is transferred to a Blynk application for processing. The system provides farmers with an immediate overview of heavy metal levels, serving as an early warning system to prevent potential damage to crops and soil. The primary objectives of this IoT-based system are twofold: to ensure the safety of irrigation water and enable precision farming practices. Keywords: heavy metal monitoring, Internet of Things (IoT), irrigation water quality, precision agriculture, sustainable agricultural practices.		
15	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	CLASSIFICATION OF SOIL AND CROP RECOMMENDATION	**Students Name :HARSHITA NAGARAJ NAIK4VP22MC0015**	
	Abstract: This project integrates sophisticated methods for deep learning with practical web develop ment to optimize agricultural practices through robust soil classification and tailored crop recommendationsystems. LeveragingasophisticatedConvolutionalNeuralNetwork(CNN) model implemented via Flask framework, the system accurately identifies and categorizes diverse soil types based on comprehensive input data. It employs preprocessing techniques to handle data inconsistencies and ensure reliable classification results. The system then generates customized crop recommendations aligned with the specific characteristics of each soil type, offering valuable decision support to farmers. The user-friendly interface enhances accessibility, allowing intuitive input of soil parameters and clear visualization of classification results and crop suggestions. Evaluation of the system demonstrates signif icant improvements in precision and efficiency in agricultural decision-making processes, highlighting its potential to enhance productivity and sustainability in modern farming practices. Keywords: Convolutional Neural Network, Recommendation, Soil Classification		
16	**Project title:**	**Guide:Mr. Anil Kumar K**	AY: 2023-2024
	MENTAL HEALTH DETECTION USING MACHINE LEARNING	**Students Name :JAIVIKA H J 4VP22MC0016**	
	Abstract:		

	"A growing number of studies are utilising machine learning algorithms to detect and fore tell mental health problems by analysing data gathered from many sources, including self report surveys, social media, and electronic health records. We employed a range of ma chine learning models, such as Support Vector Systems, Random Forests, and deep neural networks, to investigate patterns and symptoms linked to mental health conditions, such as bipolar disorder, depression, and anxiety. Language hints, behavioural patterns, and physiological data all contribute to a higher level of prediction power. An opportunity to revolutionise the way mental health issues are identified, treated, and tracked. The current status of machine learning approaches used for mental health diagnosis is explored in this paper, which highlights its benefits including objectivity, scalability, early identification, tailored therapy, and personalised care. Despite recent breakthroughs, there are still many outstanding concerns. These include how to design models that can be understood by pa tients, how to include them into clinical procedures, what kinds of datasets are necessary to accurately reflect the population, and how to monitor the effectiveness of models over time. These deficiencies must be addressed if machine learning is to become more commonly employed and successful in mental health treatment. The research is relevant because it has the ability to improve mental health outcomes through the provision of more rapid and accurate diagnoses, more tailored treatments, and scalable systems for monitoring mental health on a broad scale. In order to better understand where to focus future research efforts, this study will first take stock of the current state of machine learning-based mental health detection." Keywords: PredictiveAnalytics, Behavioral Patterns, SupportVectorMachines, Health care Systems		
17	**Project title:**	**Guide: Dr. JOTHIMANI K**	AY: 2023-2024
	HEALTHCARE CHATBOT SYSTEM USING ARTIFICIAL INTELLIGENCE	**Students Name :JEEVAN B S 4VP22MC0017**	
	Abstract: The project demonstrates how to develop an AI medical chatbot using Flask, HTML, CSS, Python, and Natural Language Processing (NLP) approaches. The chat bot processes hu man-language inputs and replies to user inquiries having accuracy and contextual relevance by utilizing the N-gram along with TF-IDF algorithms. Through the use of these NLP tech niques, the chat bot is guaranteed to be able to comprehend and reply to a broad variety of healthcare-related queries, which enhances user satisfaction and the overall user experi ence. Flask, a lightweight web framework which enables smooth communication between the user interfaces and the NLP engine, is used in the development of the chat bot's backend. Flask is a great option for addressing the complicated conversations which the chatbot needs because of its ease of use and versatility. The frontend provides an aesthetically pleasing and easy-to-use experience because it is created with HTML and CSS. Through rapid and accurate replies to user questions, the chat bot can lessen the burden for medical staff also boost patient ability to access information. The research show cases how the latest innovations can enhance communication with patients and expedite obtaining essential medical care information, emphasizing the promise of AI-driven solu tions in the medical field. By demonstrating the value of advanced NLP techniques in cre ating successful applications of AI, the N-gram and TF-IDF techniques open new avenues for further developments in the field. Keywords: Artificial Intelligence, NLP Techniques, Flask Framework, N-gram and TF-IDF Algorithms		

18	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	FACE ANALYTICS FOR RETAIL STORES	**Students Name :JYOTHI D 4VP22MC0018**	
	Abstract: This project offers a face analytics solution designed specifically for physical retail busi nesses. It makes use of cutting-edge facial recognition technology to improve data-driven decision-making, customer engagement, and operational efficiency. Using advanced algo rithms such as SSD Mobilenet V1 and Tiny Face Detector, the system uses IP cameras to record live video and accurately detect faces. Demographic information is obtained by pre dicting the age and gender of faces that are recognised using a multitask network model, like FaceAPI with TensorFlow. The gathered information is kept in a MySQL database for in-depth examination, tracking visitor counts, demographic breakdowns, and behavioural insights. shop managers can easily comprehend data with the use of interactive visualisa tions, such as charts and graphs, which helps them make well-informed decisions about marketing, staffing, and optimising shop layoutThis face analytics system is a revolution ary approach to retail management that makes it feasible for real stores to employ facial recognition technology to improve consumer interaction and business insight. Keywords: BehavioralInsights, CustomerDemographics, FaceAnalytics, FaceRecog nition, MySQL Database, Retail Store Management, SSD Mobilenet		
19	**Project title:**	**Guide: Mr. Anil Kumar K**	AY: 2023-2024
	RAIL MATE: INTEGRATED TRAIN DETAILS AND AUTOMATED PNR STATUS CHECKING	**Students Name :K MADHUSUDHA 4VP22MC0019**	
	Abstract: In the era of digital convenience, "RailMate" emerges as an innovative solution for railway travelers seeking seamless access to train information and Passenger Name Record (PNR) status. Leveraging the capabilities of Flutter for a user-friendly mobile application interface, RailMate integrates advanced technologies to deliver real-time train details and efficient PNR status verification. RailMate's core functionality is divided into two main features. First, the app allows users to effortlessly obtain train details. By entering a station name or code, users receive comprehensive information about train schedules, routes, and other essential details. This ensures travelers have access to accurate information, enhancing their journey planning experience. Users can upload images of their tickets directly through the app, where Tesseract OCR technology extracts the PNR number from the uploaded image. Flask handles the tasks of processing and retrieving data for RailMate's backend. A simple and effective data storage solution is maintained by using CSV files to store data. Keywords: Flutter mobile application, Optical Character Recognition (OCR), Passenger Name Record (PNR), RailMate.		
20	**Project title:**	**Guide: Mr. Anil Kumar K**	AY: 2023-2024
	WEATHER FORECASTING WITH MACHINE LEARNING	**Students Name :KAVYA RAI K 4VP22MC0020**	
	Abstract:		

	Weather forecasting is essential feature meteorology, vital for various sectors including farming, flying, and emergency preparedness. Conventional techniques, which mostly de pend on numerical weather prediction models, often face challenges precisely and compu tational efficiency. Recently appeared as promising alternative, leveraging large datasets to improve forecast precision and timeliness. By applying algorithms as neural networks, vector machines for support and ensemble methods, ML can analyze complex patterns and relationships in historical weather data, leading to more accurate predictions. These tech niques can handle enormous volumes of satellite imagery, radar information, and atmo spheric measurements, to produce reliable short-term and long-term forecasts. The integra tion of ML in weather forecasting not only enhances predictive accuracy but also enables the growth of advanced systems that alert users about extreme weather events, ultimately contributing to better preparedness and mitigation strategies		
21	**Project title:**	**Guide:Mr. Anil Kumar K**	AY: 2023-2024
	GOVBOT: STREAMLINING CITIZEN SERVICES THROUGH INTELLIGENT CHAT ASSISTANCE	**Students Name :KEERTHAN KUMAR D N 4VP22MC0021**	
	Abstract: The GovBot project uses an AI-driven chatbot that can effectively handle consumer in quiries to simplify access to the government services. By utilizing natural language pro cessing (NLP), the chatbot interprets user input, obtains pertinent facts, and delivers precise answers by utilizing a pre-established dataset of government services. To guarantee smooth operation, the work required thorough data pretreatment, model training, and integration with an intuitive user interface. Iterative testing and improvement were used to handle im portant issues including preserving response relevancy and guaranteeing data accuracy. The project's execution shows how artificial intelligence (AI) can improve providing public ser vices and provides information for future advancements and uses in the field of automated government support systems. An important development in the application of AI to simplify the access of government services is the GovBot project. With the use of advanced natural language processing (NLP) methods, GovBot can accurately read and reply to a variety of user queries. In order to pro vide a solid and dependable performance, the project adhered to an organized development approach that encompassed data gathering, preprocessing, model training, and system in tegration. The system architecture was painstakingly created to manage data processing in real time and respond quickly, improving user experience. The project tackled several issues, including accepting different query types and guaranteeing data security, through ongoing testing and enhancements. The implementation of GovBot demonstrates the rev olutionary potential of AI in public sector, opening the door for further developments and expanded uses. Keywords: AI-driven Chatbot, Data Accuracy, Data Preprocessing, Model Training, Natural LanguageProcessing, QueryHandling, Real-TimeDataProcessing, Response Relevancy, System Architecture, User Experience, User Interface Integration		
22	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	SMART HOME GUARDIAN	**Students Name :KULADEEP K 4VP22MC0022**	
	Abstract:		

	The "Smart Home Guardian" project, which integrates Internet of Things technology to provide effective and convenient management over room lighting, marks a significant leap in home automation. This setup uses relay modules and a NodeMCU (ESP8266) microprocessor to allow voice and manual light control. The project makes advantage of Sinric Pro's free services to integrate easily with well-known voice control services like Google Home and Alexa. This eliminates the requirement for supplementary hardware such as Echo Dot or Google Home Mini and lets users manage their lighting with simple voice commands. Realtime responsiveness is guaranteed by the system, which can execute requests instantly and has an easy-to-use interface for everyday operation and setup. Through the integration of cloud-based automation and physical controls, the Smart Home Guardian offers a reliable, easily accessed, and effective solution. Keywords: Google Home, Internet of Things, NodeMCU(ESP8266), Voice Control		
23	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	DETECTION OF POTHOLE USING DEEP LEARNING	**Students Name :LOHIT SUBRAY NAIK 4VP22MC0023**	
	Abstract: Potholes on road surfaces are a serious hazard to vehicle integrity and road safety, increasing the risk of collisions, vehicle damage, and commuter irritation. The manual inspection method used in traditional pothole identification techniques is labor-intensive, time-consuming, and prone to human mistake. However, recent advances in Deep Learning(DL) algorithms have offered intriguing alternatives for automated pothole detection. This research recommends using DL methods to identify potholes in photos taken on roads. Potholes are a major risk on roads that cause collisions and damage to vehicles. In this work, introduce an innovative technique for spotting the potholes using the cutting-edge object identification algorithm YOLO(You Only Look Once). The drivers timely understandable when the detected data is analysed and shown using a graphical user interface (GUI) created in Python with Tkinter. This system tries to increase road safety, improve vehicle maintenance, and provide a safer driving experience by sending out instant alerts. This creative idea is a significant advancement in using technology to solve frequent issues with road infrastructure and raise the standards for overall safety in transport. Key Words: Computer Vision, Deep Learning, Tkinter, YOLOv4		
24	**Project title:**	**Guide:Dr. JOTHIMANI K**	AY: 2023-2024
	HUMAN ACTIVITY RECOGNITION WITH POSE DETECTION	**Students Name :M ASHWINI 4VP22MC0024**	
	Abstract: Human Activity Recognition (HAR) using pose detection is an emerging field with significant applications in healthcare, sports, ergonomics, and human-computer interaction. The project aims to develop a system capable of accurately identifying and classifying human activities such as sitting, standing, and walking through pose estimation techniques. Leveraging advanced computer vision algorithms and machine learning models, the system processes static images and real-time video streams to detect key body landmarks and compute angular relationships. The MediaPipe framework, combined with OpenCV for image manipulation and Matplotlib for visualization, forms the core of the implementation. The project highlights the importance of adaptive algorithmic thresholds and real-time processing optimizations to enhance accuracy and responsiveness. The findings contribute to the broader understanding of		

	HAR systems and offer a foundation for future improvements and applications in various domains. Keywords: Convolutional Neural Networks, Human activity recognition, Mediapipe.		
25	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	CHILD MONITORING SYSTEM USING IOT	**Students Name :MADHURA RAO K 4VP22MC0025**	
	Abstract: Balancing work, household chores, and child care can be challenging for parents and care givers today in their busy schedule. The current work culture's and the hectic schedules of both men and women, raising a child has become a significant difficulty. Conversely, digital technologies are transforming the persons life more better there by helping in some or the other way in day to day activity The technology innovation and our daily activities might have a big impact on the child care industry. This aims to create and build an Internet of Things (IoT) based child monitor ing system from that child can be monitored from anywhere. The technology is to monitor a child's whereabouts while taking their health into account. A well-organized method for keeping an eye on the youngster is the Internet of Things (IoT)-based child monitoring system. Key Words: Child care industry, Child monitoring system, Internet of Things		
26	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	PREDICTING PRICE AND QUANTITY OF HORTICULTURE PRODUCTS	**Students Name :MAHADEVREDDY 4VP22MC0026**	
	Abstract: As a crucial sector for future diversified farming and revenue generation horticulture which includes a wide range of products as cashew tomatoes cucumbers herbs plant material used in the growing of plants aromatic and medicinal herbs and more is recognized today vegetable crops are now universally recognized as the best source of nutrition stable income and improved employment and financial stability due to their rising value 36 states the datasets consist of 29 states plus 7 territories and their districts each governments crop varieties are included in the application by considering all of the previous years datasets we are able to anticipate the outcome for 2025 this program helps with profit analysis. The goal of this research is to use cutting-edge machine learning techniques to forecast the amount and price of horticulture goods in India. Through an extensive examination of past data and the identification of key affecting elements, the initiative offers precise and useful data for stakeholders, legislators, and farmers. The system combines reliable data processing, visualization, and deployment capabilities with an easy-to-use web interface, while also using Java for backend development. The project aims to promote environmentally friendly agriculture, improve market stability, and improve decision-making. Key words: Java, JSP, Machine Learning, Price Prediction		
27	**Project title:**	**Guide: Dr. JOTHIMANI K**	AY: 2023-2024
	SMARTSTOCK INSIGHT: PREDICTIVE STOCK PRICE ANALYSIS USING SENTIMENT ANALYSIS AND LSTM NETWORKS	**Students Name :MAHAMMAD AFNAN M 4VP22MC0027**	
	Abstract:		

	Accurately predicting changes in stock prices is a challenging task for investors due to the ever-evolving behaviour of the Indian stock market. This study integrates sentiment analysis with LSTM models to enhance prediction accuracy. By using NLP techniques, market sentiment from news headlines is evaluated. Financial and textual data are collected, cleaned, and used for sentiment analysis, categorizing market sentiment into a scale of positive (1), negative (-1), and neutral (0). This sentiment data is integrated with historical stock prices to train the LSTM model. A user-friendly application is developed for real time predictions. Future improvements include automating the model-building process, incorporating more data sources, and enhancing sentiment analysis techniques. This project demonstrates the potential of combining sentiment analysis with LSTM models for more accurate stock price predictions and deeper market insights. Keywords: BeautifulSoup, LSTM Model, Sentiment Analysis, Stock Price Predictions, Time-Series Prediction, Web Crawling.		
28	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	FRUITSYNERGY TRACKER: ELEVATING HEALTH AWARENESS WITH SMART FRUIT RECOGNITION AND NUTRITION MONITORING	**Students Name :MAHAMMAD MUBASSIR 4VP22MC0028**	
	Abstract: The FruitSynergy Tracker project intends to engage with the problem of managing a healthy diet by giving a user-friendly, efficient mobile application for fruit recognition and nutrition tracking. This system enhances the power of Convolutional Neural Networks (CNNs), specially the MobileNetv2 model, to perfectly detect various fruits from images captured by the user. The application provides detailed facts about nutrition, including calories, vitamins and energy, along with their health benefits. The system also promotes health awareness to the general users to take decision about the healthy fruit. The application also provides usability design by providing the general features of regional fruits, ensuring the nutrition information is presented well. The application is a best resource for individuals to improve nutrition intake and overall health. Keywords: Fruit Recognition, Nutrition Tracking, MobileNetv2, Convolutional Neural Networks, Health Awareness, Dietary Choices.		
29	**Project title:**	**Guide:Mrs. NEEMA H**	**AY: 2023-2024**
	KITCHEN SAFETY AND AUTOMATION SYSTEM	**Students Name :MANOHAR K 4VP22MC0029**	
	Abstract: To increase the safety of your home, this project offers a Kitchen Safety and Automation System that can detect gas leaks and operate an electronic valve. For real-time notifications and monitoring, it makes use of an electric gate valve, a MQ-2 gas sensor, a relay module, and a NodeMCU microcontroller that is integrated with the Blynk platform. The technology triggers the relay to shut the valve, cutting off the gas supply and alerting the user through the Blynk app, when gas levels surpass a predetermined threshold. The Blynk app configuration, NodeMCU programming, and component assembly and wiring were all part of the implementation process. Sensor calibration and power supply management were two major obstacles. Functional component testing, performance at different gas concentrations, and long-term reliability were all tested. In the future, the user interface might be improved and		

	temperature and smoke sensors added. Keywords: Internet of things, Kitchen safety, Microcontroller, Sensors.		
30	**Project title:**	**Guide: Mr. Ramesha K**	**AY: 2023-2024**
	PREDICTING SOCIO-ECONOMIC STATUS FROM SATELLITE IMAGERY USING ML ALGORITHMS	**Students Name :NEETHUSHREE K R 4VP22MC0030**	
	Abstract: The socio-economic status of an area is an important factor that affects the lives of people. In this project, we propose a deep learning-based method for predicting the socio-economic status of a specific area using satellite imagery. The proposed approach utilizes Convolutional Neural Networks (CNNs) and transfer learning to train on satellite imagery. The system will be evaluated on a dataset containing satellite imagery. Key words: CNN, Image Processing, Satellite Imagery		
31	**Project title:**	**Guide:Dr. JOTHIMANI K**	AY: 2023-2024
	ML-BASED VALIDATION OF ARECA NUT DISEASE DATASET USING WEATHER PARAMETERS	**Students Name :P M VENUGOPALA 4VP22MC0031**	
	Abstract: Research on utilizing machine learning techniques to predict susceptibility of plants to diseases by examining weather data. The study utilizes weather information from the OpenWeatherMap API, focusing on key elements such as precipitation, peak temperature, and humidity. The objective is to forecast disease ratings and classify resistance levels in plants using machine learning models. The data is separated into distinct training and testing sets in order to develop models that forecast disease outcomes based on weather patterns. Research showcases the capability of machine learning in forecasting agricultural diseases. The machine learning models' ability to predict disease susceptibility gave farmers and agricultural professionals real-time data-driven recommendations. Being able to forecast allows for proactive management of diseases, potentially leading to more robust crops and greater effectiveness in agricultural practices. By combining sophisticated algorithms with weather information, this approach offers a promising solution to enhance agricultural resilience and sustainability. Keywords: Agriculture, Areca Nut Fruit Rot Disease, Weather		
32	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	CASHEWCARE:THE PRECISION OF CASHEW LEAF DISEASE INSIGHTS	**Students Name :POOJALAKSHMI 4VP22MC0032**	
	Abstract: CashewCare is a cutting-edge project that uses image processing and machine learning to transform disease management in cashew crops. The project's main intension is to solve the pressing issue of early disease identification in cashew leaves, it will enable timely intervention and reduce the possibility of yield losses. CashewCare uses sophisticated Convolutional Neural Networks (CNNs) to analyze photos of cashew leaves taken in the domain or from the online platforms to automate the process of identifying diseases. A large and varied dataset of annotated pictures, depicting different phases of disease progression and		

	prevalent infections affecting cashew leaves, is used to train the CNN models. By providing early warnings of disease outbreaks, CashewCare's deployment of fers cashew farmers and orchard managers a number of major benefits. This gives farmers the ability to prevent the spread of disease by using proactive techniques including target ed spraying, trimming diseased branches, and implementing cultural practices. With the use of image processing and machine learning, CashewCare is a revolutionary develop ment in agriculture technology that optimizes agricultural yield while preserving the health of cashew plants. Through early disease detection, the study aids in the decision making of farmers for sustainable cashew production and allows for prompt intervention. Key words: Image processing,Convolutional Neural Networks		
33	**Project title:**	**Guide:Mr. Anil Kumar K**	AY: 2023-2024
	AI-BASED ANOMALY DETECTION IN NETWORK SECURITY	**Students Name :PRAJWAL K S 4VP22MC0033**	
	Abstract: Artificial intelligence (AI) is revolutionizing network security by identifying irregularities in complex and large-scale network data. We employ AI's adaptive learning to find small irregularities that might indicate possible intrusions because traditional approaches frequently crumble under the complexity of contemporary networks. Through unsupervised learning, our machine of learning model identifies real-time anomalies. It was trained on anonymized network packet data, which included IP addresses, ports, packet sizes, and TCP flags. In order to guarantee efficient data gathering, we addressed problems including the absence of labelled anomalous data via data augmentation and accurate feature engineering. Explainable AI (XAI), which facilitates analysts comprehension of flagged packets, increased system trust. The model's capacity to generalize and identify novel threats was validated through extensive testing using anomaly injection. AI is an essential instrument for a more dependable and effective approach to network security since continuous monitoring enabled the system to adjust to changing threats. Keywords : Artificial intelligence, Cybersecurity, Explainable AI, Flagging, Packet, Unsupervised learning		
34	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	ANALYSIS OF THE ENERGY CONSUMPTION FORECASTING PROBLEM IN SMART BUILDINGS USING LSTM	**Students Name :PRATHAP L S 4VP22MC0034**	
	Abstract: The project "Analysis of the Energy Consumption Forecasting Problem in Smart Buildings Using LSTM" aims to leverage Long Short-Term Memory (LSTM) neural networks to predict energy consumption in smart buildings. By utilizing historical energy consumption data and considering various temporal features, the project seeks to enhance the accuracy of energy forecasts. The implementation involves a detailed process of feature extraction, data resampling, and preparation, followed by the construction of an LSTM model tailored to the specifics of the dataset. The effectiveness of the model is validated through rigorous evaluation metrics, ensuring its reliability and precision in forecasting future energy consumption patterns. This forecasting optimize energy management effectively, it is crucial in smart		

	buildings, reducing energy waste, and supporting sustainable practices. Keywords: Energy Forecasting LSTM, Neural Networks, Smart Buildings		
35	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	AIR QUALITY PREDICTION USING MACHINE LEARNING	**Students Name :RASHMITHA 4VP22MC0035**	
	Abstract: Air pollution is a pressing environmental issue affecting public health and quality of life, particularly in urban areas. This project focuses on developing a predictive model for air quality using machine learning techniques, leveraging data from various Indian cities, including Bangalore, Mangalore, Delhi, Ahmedabad, Mumbai, and Chennai, from 2020 to April 2024. The study employs Random Forest and Neural Network models to predict the Air Quality Index (AQI) based on multiple pollutants and meteorological factors. The data preprocessing steps include cleaning, normalization, and feature selection to ensure the accuracy and reliability of the models. The project also incorporates a web-based interface using Gradio, enabling users to interact with the models and obtain real-time predictions. The findings highlight the significant impact of specific pollutants and meteorological conditions on air quality, offering significance insights for policymakers and the public. Keywords: Air Quality Prediction, AQI, Data Preprocessing, Environmental Monitoring, Feature Selection, Python		
36	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	ACCIDENT DETECTION AND ALERT SYSTEM	**Students Name :RESHMA A 4VP22MC0036**	
	Abstract: The project will focus on creating an advanced mechanism for detecting accidents using video processing together with machine learning methods. The system captures video input, processes each frame to extract relevant features, and utilizes a paradigm of deep learning to classify whether a mishap has occurred. when an accident is discovered, the system sends immediate notifications with details of the location using communication APIs. Furthermore, the web interface allows users to upload videos and view the detection results in real time. This integrated approach aims to enhance road safety by providing timely and accurate accident alerts. The system is designed with multiple integrated components to ensure robust performance and user availability. It uses OpenCV for efficient video processing and frame extraction, and a pre trained deep learning framework (VGG16) for characteristic extraction from video frames. A sequential neural network is then trained on these features to accurately classify the frames as accidental or non-accidental. To provide real-time notifications, the system uses the Twilio API to send SMS alerts and geolocation services to include precise location information in notifications. The user-friendly Flask web interface allows users to interact with the system, upload video files for analysis, and view results seamlessly, making the system practical and accessible to a variety of users. This multi-pronged approach combines advanced machine learning, real-time processing and user-centric design to address the critical need for timely accident detection and response. Keywords: Deep learning, Flask web interface, Frame extraction, OpenCV, Real time processing , Twilio API, Video processing.		

37	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	IDENTIFICATION AND BIOLOGICAL CHARACTERIZATION OF RAMBUTAN LEAF DISEASES	**Students Name :SAMHITHA ARIGA 4VP22MC0037**	
	Abstract: The agricultural sector is vital for sustaining human existence by providing essential re sources, but it faces significant challenges, particularly in the management of crop diseases. Rambutan (Nephelium lappaceum), a tropical fruit crop of economic importance, is vulner able to various leaf diseases that have substantial influence on productivity and quality. This project proposes a model for the identification and classification of rambutan leaf diseases using advanced image processing to address these challenges. The system integrates a Convolutional Neural Network (CNN) model with image pre processing and feature extraction to analyze images of rambutan leaves and classify them into different disease categories. The design phase involved creating a comprehensive dataset of rambutan leaf images, training the CNN model, and developing a user-friendly interface. The system leverages real-time image processing to provide accurate and timely disease diagnosis Utilizing this advanced technology, the system effectively distinguishes between healthy and diseased leaves. The user-friendly interface allows users to easily upload leaves pic ture and receive diagnostic results including full information about the identified diseases. Despite benefits such as enhanced crop disease management and improved productivity, challenges include the dependence on image quality and the need for continuous system updates The potential of machine learning-based solutions in agriculture underscores the impor tance of further research and implementation. This project does not just contributes to the f ield of agricultural technology but also lays the groundwork for future advancements in plant disease detection and management. Key Words: Agricultural sector, Rambutan leaf diseases, Image processing, Machine Learning, CNN		
38	**Project title:**	**Guide:Mrs. NEEMA H**	AY: 2023-2024
	SENTIMENT ANALYSIS ON TWITTER DATA	**Students Name :SANKET M TEGGIHALLI 4VP22MC0038**	
	Abstract:This design focuses on developing a robust sentiment analytic tool created especially for Twitter data using Python and the Flask frame. using the TextBlob library, the system processes both stoner- submitted textbooks and tweets brought via the Twitter API, utilizing sophisticated algorithms to process natural languages ways similar as tokenization and normalization to enhance sentiment bracket delicacy. The Beaker- grounded web operation provides a stoner-friendly interface that allows druggies to input textbook and incontinently view sentiment analysis results distributed into positive, negative, or neutral sentiments. Challenges encountered include effectively managing Twitter's informal language and handling complications like affront, which bear nonstop model refinement. The design demonstrates the system's eventuality in capturing and interpreting public sentiment trends on social media platforms, offering precious perceptivity applicable to different fields similar as marketing strategies, public opinion exploration, and social media analytics. Keywords: Sentiment Analysis, Textblob, NLP.		

39	**Project title:**	**Guide:Mr. Anil Kumar K**	AY: 2023-2024
	REAL-TIME HUMAN SCREAM DETECTION AND ALERT MESSAGE SYSTEM	**Students Name :SHALMALI P V 4VP22MC0039**	
	Abstract: Real-time human scream detection allows public safety and alerts emergency services to detect screams in audio. The project includes MFCC and signal processing, which is used to separate screams from other sounds without background noise. The project used machine learning to create an effective system. Managing various types of screams and ethical privacy concerns are among the issues. The project focuses on real-time analysis to improve emergency response accuracy and resource allocation. The goal is to enhance scream detection technology by proving its value in different situations and improving audio-based monitoring and emergency response . Keywords: Emergency Response, Machine Learning, Mel-frequency Cepstral Coefficients (MFCC), Real-time Audio.		
40	**Project title:**	**Guide:Mr. Ramesha K**	AY: 2023-2024
	VISION ASSIST REAL TIME OBJECT DETECTION FOR VISUALLY IMPAIRED PEOPLE	**Students Name :SHAMITHA N SHETTY 4VP22MC0040**	
	Abstract: This project aims to assist visually impaired individuals by providing real-time item detec tion and voice feedback. The programme uses a device with a high-quality camera to take live video feeds and process them using a pre-trained SSD model within the TensorFlow framework. The object detection module detects and classifies objects in real-time, giving users with audio descriptions through a text-to-speech engine for immediate and relevant feedback. The programme aims to enhance the freedom and quality of life for visually im paired individuals by offering an useful tool for navigating their surroundings. This work utilises modern machine learning and device technology to overcome a major barrier faced by the blind community. Keyword: Computer Vision, Depth Estimation, Object Detection, Single Shot Multi Box Detector, Visual Impairment People, Voice Alerts .		

	Dept: MCA	**Guide:Mr. RAMESHA K**	AY : 2023-24
Project No	**Project title** **FOREST FIRE DETECTION USING IOT**	**Students Name :** **SHARANYA T J 4VP22MC041**	
41	Abstract: Theincreasing incidence of forest fires necessitates the development of efficient and reliable detection systems. This project presents an IoT based detection system leveraging multiple sensors and communication modules to provide real-time alerts to authorities. The system integrates a fire sensor, DHT11 temperature and humidity sensor, MQ2 smoke sensor, and light		

	sensor with an Arduino Nano microcontroller to monitor environmental parameters. Each sensor node wirelessly transmits data using the nRF24L01 RF module. A central node, built with an ESP32 microcontroller, gathers information gathered from nodes for sensors through its own nRF24L01 module. Upon detecting anomalies such as high tem peratures, excessive smoke, or sudden light intensity changes indicative of fire, the ESP32 triggers an alert mechanism. The system employs a SIM 800C GSM module to send SMS notifications to designated authorities, ensuring prompt response and mitigation efforts. Additionally, the ESP32 sends collected results to the Thinger.io cloud platform, where accessed and monitored for further analysis and processing. This cloud integration en ables the visualization of sensor data, facilitating better decision-making and allowing for historical data analysis to improve future fire detection strategies. The proposed system enhances rapid fire detection capabilities, potentially reducing speeds of response and mit igating damage. Through rigorous testing and deployment in controlled environments, the system's reliability and accuracy have been validated. KeyWords:Forest sector, IoT, Real-time Alerts.		
42	**Project title**	**Guide:** Dr. JOTHIMANI K	AY : 2023-24
	CALORIETRACK: PERSONALIZED NUTRITION ASSISTANT	**Students Name :** **SHARATH NARAYANA HOLLA D** **4VP22MC042**	
	Abstract:		
43	**Project title**	**Guide:**Dr. JOTHIMANI K	AY : 2023-24
	IMAGE PROCESSING SYSTEM TO DETECT COCOA FRUIT PEST ATTACK	**Students Name :** SHIVAGANESH 4VP22MC043	
	Abstract: Cocoa cultivation faces major challenges due to pest infestation, which can seriously affect yield and quality. Traditional methods of detecting pests are often laborious and subjective, relying on visual inspection by farmers. The system uses digital image analysis to extract key features from images of cocoa beans taken in the field. These characteristics include color variations, textural patterns, and shape abnormalities associated with common cacao pests. Machine learning algorithms specially adapted for pest detection are used to classify cocoa beans as healthy or pest-ridden based on characteristics. The implementation of the proposed image processing system aims to provide cocoa producers with a reliable and effective tool for early detection of pests, enabling timely intervention and better cultivation strategies. By reducing reliance on subjective visual inspections and improving detection accuracy, the system promotes sustainable cocoa production practices and the financial stability of cocoa farmers.		
44	**Project title**	**Guide:** Mrs. NEEMA H	AY : 2023-24
	WILDLIFE POACHING DETECTION WITH AUDIO ANALYSIS USING MACHINE LEARNING	**Students Name :** SHODHAN B C 4VP22MC044	
	Abstract:		

	The wildlife poaching poses a severe threat to global biodiversity and ecosystem stabil ity, particularly in remote and expansive habitats where traditional monitoring methods are inadequate. To address these challenges, conservationists increasingly rely on advanced technologies such as ML and audio analysis. These tools analyze distinctive acoustic sig nals like gunshots and vehicle engines from audio recordings collected in wildlife areas, aiming to detect and classify poaching incidents remotely. This project explores the application of ML, specifically voice print technology, in wildlife poaching detection through audio analytics. It surveys existing research method ologies, including data collection techniques and analytical approaches, and presents case studies illustrating the efficacy and limitations of these methods. Ethical considerations regarding community acceptance and privacy implications are also examined, highlight ing the importance of stakeholder engagement in deploying surveillance technologies in sensitive ecological environments. The proposed method involves systematically collecting audio data from wildlife habi tats, extracting meaningful acoustic features, and training ML models to recognize patterns indicative of poaching activities. Once trained, these models operate in real-time to iden tify potential threats and alert relevant authorities promptly. Continuous model refinement through feedback mechanisms ensures improved accuracy and reliability over time. However, challenges such as background noise interference, limited labeled data avail ability, and community acceptance of monitoring systems present significant obstacles. Overcoming these challenges is essential to effectively implement and sustain ML-driven poaching detection systems.
45	**Project title** | **Guide:**Dr. JOTHIMANI K | AY : 2023-24
	SMART BEEHIVE MONITORING SYSTEM FOR SUSTAINABLE BEEKEEPING | **Students Name :** SHODHAN P G 4VP22MC045
	Abstract: The Smart Beehive Monitoring System represents a significant advancement in modern beekeeping practices by integrating IoT technologies for real-time monitoring and manage ment of beehive conditions. This system employs a NodeMCU (ESP8266) microcontroller and various sensors—including DHT11 for temperature and humidity, a Sound Sensor for environmental noise levels, a Rain Sensor, and a HX711 Amplifier for hive weight mea surement—to collect and aggregate data. The aggregated data is processed locally to ensure accuracy and then transmitted to the Blynk Cloud Platform for visualization and analysis. Beekeepers can monitor hive conditions remotely via a user friendly web interface, receiv ing alerts for critical events such as temperature fluctuations, high noise levels, rainfall, and significant changes in hive weight. This enables timely interventions to optimize bee health, productivity, and overall sustainability in beekeeping practices. The Smart Beehive Monitoring System exemplifies a practical application of IoT in agriculture, offering pre cise insights for informed decision-making and proactive hive management.
46	**Project title** | **Guide:** Dr. JOTHIMANI K | AY : 2023-24
	SOLAR ENERGY PREDICTION USING MACHINE LEARNING | **Students Name :** **SHRAVYA 4VP22MC046**
	Abstract:

	The solar energy industry is significant to meeting the world's sustainable energy needs, but it has obstacles to overcome, including variable weather patterns and the requirement for effective energy management and forecasting. To optimize energy output and consump tion, this research suggests a machine learning. The system uses real-time climatic data, including rainy, winter, and summer conditions, to anticipate important solar energy met rics including DC power, AC power, and daily yield using the Random Forest algorithm. The system combines lots of technologies, like Flask/Django for an intuitive web interface, Scikit-learn for machine learning, and Python for data processing. SQLyog is used for data management and storage, which guarantees effective handling and accessibility. Thorough testing processes verify the functionality, scalability, and de pendability of the system. These phases include unit, integration, system, performance, and user acceptance testing. The outcomes show how well the system improves solar en ergy management byoffering precise, up-to-date forecasts and assisting with well-informed decision-making for energy optimization. The project's results demonstrate the potential for cutting-edge machine learning algorithms to increase solar energy use and efficiency, despite obstacles like managing extreme weather.		
47	**Project title**	**Guide:Prof. NEEMA H**	AY : 2023-24
	ORGAN SHARING-DONOR FINDER APPLICATION	**Students Name :** SOUBHAGYA A B 4VP22MC047	
	Abstract:		
48	**Project title**	**Guide:Mrs. NEEMA H**	AY : 2023-24
	ARECA NUT GRADING USING IMAGE PROCESSING	**Students Name :** **SUDHEENDRA M 4VP22MC048**	
	Abstract: The Areca Nut Grading System project uses cutting-edge image processing and machine learning approaches to improve the efficiency and market value of areca nut grading. In order to ensure fair pricing and quality control in the agriculture industry, accurate and consistent grading is a fundamental requirement that this system fulfills. The research uses a complete methodology that starts with the preprocessing and collecting of distinct photos of areca nuts that represent different classes, such as Bazar Ulli, Bazar Chali, Bazar Fator, and Bazar Karikoka. The system uses TensorFlow Lite to deploy models efficiently and effectively classifies uploaded photos based on visual criteria like color, size, and texture. Users may upload photographs and check classification results with ease because to the user-friendly interface, which improves accessibility and usability. The initiative shows the transformative potential of AI in agricultural applications, despite obstacles like image visibility and tiny changes in nut quality. This paves the way for further advancements and research in automated grading systems. This project highlights the value of ethical issues and user-centric design in creating powerful technological solutions, in addition to advancing technical abilities.		
49	**Project title**	**Guide:**Prof. RAMESHA K	AY : 2023-24
	MEDICINAL PLANT SPECIES IDENTIFICATION	**Students Name :** **SUKRUTHI B N 4VP22MC049**	
	Abstract:		

	A collection of Leaf photos of medicinal plants was assembled, cleaned up, and divided into training and validation sets. Using this dataset, a CNN model with convolutional, pooling, and fully connected layers was created and trained. Transfer learning strategies were used to improve the accuracy of the classification. With 89 training accuracy and 85 validation accuracy, the model performed well. To avoid overfitting and preserve the top-performing model, early stopping and model checkpointing were employed. This approach offers use ful information on the health advantages of many medicinal plant species and exhibits great accuracy in identifying them. The initiative demonstrates the potential of deep learning in advancing botanical sciences and healthcare, with implications for pharmaceutical devel opment, traditional medicine, and biodiversity protection.		
50	**Project title**	**Guide:**Prof. ANIL KUMAR K	AY : 2023-24
	HUMAN STRESS DETECTION USING MACHINE LEARNING	**Students Name:** **SUVARNA UMESH HEBBAR** **4VP22MC050**	
	Abstract: In today's fast-paced and stress-laden society, effective stress management is crucial for maintaining mental and physical well-being. Traditional methods of stress assessment of ten lack objectivity and continuity, relying on subjective self-reporting or periodic clinical evaluations. This project proposes a novel approach to stress detection by developing a non invasive and continuous system that analyzes individuals' sleeping habits. Sleeping habits offer valuable information into stress dimensions due to the intricate relationship between stress andsleep. Disruptions in sleep patterns, altered sleep cycles, and sleep disturbances are commonly designed with heightened stress. Providing benefit to machine learning's algorithm, this process is use to extract meaningful insights from sleep data to identify pat terns indicative of stress. By focusing on an individual's sleeping habits, this project seeks to revolutionize stress detection and management. The proposed system offers a proactive approach to stress management by enabling early detection of stress-related indicators. Ul timately, this holis- tic approach aims to promote overall well-being and mental health in today's stress-laden society.		
51	**Project title**	**Guide:Prof. ANIL KUMAR K**	AY : 2023-24
	CULTIVATING SUSTAINABILITY THROUGH SMART CROP ROTATION PLANNING AND RECOMMENDATIONS	**Students Name:**TEJASWI R 4VP22MC051	
	Abstract: Smart Crop Rotation Planning and Recommendation focuses on developing a predictive system for agricultural yields using ML techniques. Including historical crop yields and soil types, acres to land, and we aim to provide farmers with accurate yield predictions and actionable insights. The project leverages a mix of supervised learning algorithms, data pre processing, and feature engineering to create supporting forecast yields for various crops in different conditions. To connect the system with real-world agricultural needs, it is im portant to integrate accurate crop recommendations, optimize model performance through iterative refinement, and ensure data quality and diversity. The findings show a notable increase in the accuracy of yield forecast, providing farmers with a useful tool to improve output and practice optimization. Further efforts will concentrate on enlarging the dataset, adding new factors, and improving the models to boost their usability and prediction ability even further.		

52	**Project title**	**Guide:**Prof. RAMESHA K	AY : 2023-24
	MACHINE LEARNING OPUS IN THE ARTISTRY OF WASTE CLASSIFICATION	**Students Name:**THEJASHRI KUMARI	
	Abstract: In metropolitan area, where significant amounts of waste are produced on a daily basis, waste management is an urgent problem.Even though machine learning has advanced sig nificantly recently, conventional approaches still struggle to stay up to date. Machine learn ing algorithms have the ability to automate the sorting of waste, optimize collection routes, and forecast the need for equipment maintenance. Waste management systems can function more sustainably and efficiently thanks to machine learning, which effectively addresses the problems associated with contemporary waste management by utilizing data-driven in sights. The project ”Machine Learning Opus in the Artistry of Waste Classification” attempts to take advantage of these technical developments in order to help waste management au thorities with their most pressing problems. The goal of current trash classification is to maximize environmental effect, decrease expenses, and increase efficiency through the in tegration of ML algorithms. Garbage is composed of many various types, including food waste, paper, plastic, and other materials. To appropriately treat these kinds of rubbish, it’s crucial to segregate them. The goal is to upload the photos of the trash that have been collected and send themto the framework so that it can ascertain whether the waste is mixed, wet, or dry. Glass, paper, metal, lightbulbs, batteries, clothing, plastic, e-waste, and organic wastes are the nine pri mary categories of waste.		
53	**Project title**	**Guide:Mr. Ramesha K**	AY : 2023-24
	CASHLESS TRAVEL IN BUS USING QR CODE	**Students Name:** THEJASWINI 4VP22MC053	
	Abstract: The Cashless Travel in Bus Using QR Code project aims to revolutionize the traditional ticketing system in public transportation by introducing a seamless, digital, and cashless solution. This project leverages the power of QR code technology and smartphone capabilities to enhance the convenience, efficiency, and security of bus travel. Passengers can effortlessly book their bus tickets online, select their travel routes and seats, and receive an e-ticket with a unique ticket number. Inside the bus, passengers scan a pre-displayed QR code using their smartphones, which verifies their ticket and completes the boarding process. The project also incorporates essential features such as dynamic fare calculation based on selected routes and the number of seats, ensuring that the fare is accurately generated and stored in the database. In summary, the Cashless Travel in Bus Using QR Code project presents an innovative approach to modernizing public transportation, providing a convenient, secure, and efficient travel experience for passengers while streamlining operations for bus service providers.		
54	**Project title**	**Guide:**Prof. ANIL KUMAR K	AY : 2023-24
	TOMATO LEAF DISEASE DETECTION AND PESTICIDE USING DEEP LEARNING	**Students Name:**UMAMAHESHWARA N	
	Abstract:		

	Agriculture is vital for livelihoods in India, encompassing both commercial and small-scale farming. However, crop diseases present considerable challenges, particularly for small scale farmers lacking expertise in disease management. An intelligent system leveraging deep learning techniques, including a CNN model with Keras, accurately identifies various tomato leaf illness. Incorporated into a user-friendly Flask-based web application, the sys tem enables real-time disease detection and personalized pesticide recommendations. This approach aims to enhance agricultural sustainability and productivity across different farm ing scales, addressing critical issues in crop health management and supporting sustainable farming practices.		
55	**Project title**	**Guide:** Prof. ANIL KUMAR K	AY : 2023-24
	VCINFOBOT – AI CHATBOT FOR EDUCATIONAL INSTITUTION	**Students Name:**VAISHALI 4VP22MC055	
	Abstract: The reason of creating the VCInfoBot Chatbot project is to build a conversational agent that is intelligent and easy to use for both informational and educational institution to gather the details. With a particular HTML/CSS/JavaScript frontend and the Flask framework for the backend, advanced Natural Language Processing(NLP) techniques are used by chatbot to comprehend and reply to user queries. Preprocessing the input, generating responses using optimised models, and extracting keywords to improve contextual comprehension are important parts of the system. By streamlining user interactions and offering precise, contextually appropriate answers, this project seeks to improve the user experience. Robust data processing, effective model training, and smooth backend-frontend integration are all part of the implementation, which results in a unified and responsive user experience. With this project, we show how Machine Learning and Natural Language Processing will be used to create intelligent, responsive chatbots that can solve real-world problems in learning environments.		
56	**Project title**	**Guide:**Prof. ANIL KUMAR K	AY : 2023-24
	HUMAN-FALL DETECTION FROM VIDEO	**Students Name:** VAISHNAVI A G 4VP22MC056	
	Abstract: A robust real- time fall discovery system using videotape surveillance to improve the security of senior individualities and children. Traditional detector- grounded bias, similar as accelerometers and exigency watches, have limitations due to stonernon-compliance and incapability to spark during a fall. The system addresses these challenges by exercising the YOLO(You Only Look Once) object discovery model to cover mortal conditioning continuously. This analyzes the height- to- range rate of detected persons to directly distinguish falls from routine conditioning. Upon detecting a fall, the system triggers immediate cautions, including audio announcements and automated dispatches to caregivers or exigency connections. Comprehensive testing demonstrated the system's trustability, real- time performance, and robustness, icing accurate fall discovery and timely intervention. This innovative approach provides a significant enhancement over being results, enhancing the safety and well- being of vulnerable populations.		
57	**Project title**	**Guide:** Prof. ANIL KUMAR K	AY : 2023-24
	GAZE ESTIMATION WITH REAL-TIME	**Students Name:**VARSHA A 4VP22MC057	

	SENTIMENT ANALYSIS USING DEEP LEARNING		
	Abstract: Gaze estimation and deep instructional methods have emerged as a key scientific area, which has caused important developments in absorption systems and human computer interaction. Applying deep learning techniques to sentiment analysis and gaze estimate is the focus of the project Gaze forecast with Real-time sentiment detection using Deep Machine Learning. The aim is to accurately detect the direction in which an individual is gazing and evaluate their current emotional state. The study's objective is to use state-of-the-art neural network architectures to identify complex patterns in eye photos that correlate with specific gaze alignments and moods. Main intention of this project to display eye point calculation with expression of human in real time.		
58	**Project title**	**Guide:** Mrs. NEEMA H	AY : 2023-24
	RAPIDSIGN: TRANSFORMING HAND GESTURES INTO TEXT WITH REAL-TIME PRECISION	**Students Name:**VARSHA K 4VP22MC058	
	Abstract: A comprehensive a technology that identifies hand signs in on time which leverages ad vanced machine learning and computer vision techniques. Utilizing TensorFlow, OpenCV, and MediaPipe, the system captures and processes video input to detect and classify hand gestures into predefined categories. The core objectives are to achieve real-time perfor mance with minimal latency, high precision in gesture-to-text conversion, and broad ges ture recognition capabilities. The implemented solution includes a robust model trained on a diverse dataset, ensuring versatility across different hand gestures. Privacy and ethical considerations are embedded in the design to protect user data and respect cultural sensi tivities. Extensive testing across varied environments demonstrates the system's reliability and performance. Additionally, the integration of this system into a web-based application via Flask allows for seamless user interaction, including live gesture acknowledgement and motion image uploads. The findings suggest that system meets its objectives, offering a high-precision, real-time gesture recognition solution with practical applications in acces sibility, communication, and user interface enhancement.		
59	**Project title**	**Guide:** Prof. RAMESHA K	AY : 2023-24
	HANDWRITTEN DIGITS RECOGNITION	**Students Name:**VARSHA M C 4VP22MC059	
	Abstract: In pattern identification and computer vision, digit recognition from handwritten is a classic topic with applications ranging from digitizing handwritten notes to automated postal mail sorting. This project focuses on building and deploying a reliable machine learning-based system for handwritten digit detection. We utilize among deep learning model is neural network, which is particularly well-suited in order to recognize images, to categorize digits from the dataset. Our model architecture includes multiple pooling and convolutional layer to automatically extract pertinent characteristics from the photos. The classification is then performed using		

	completely linked layers. Utilizing stochastic decline in gradient, the system is trained and backpropagation with cross-entropy loss.		
60	**Project title**	**Guide: Dr. JOTHIMANI K**	AY : 2023-24
	MEDIGUARD: PRECISION OVERDOSE FORECASTING FOR CANCER PATIENTS USING MACHINE LEARNING	**Students Name:** YATHNA P P 4VP22MC060	
	Abstract: The accurate administration of medication is critical in cancer treatment, where overdoses can lead to severe adverse effects and underdoses can result in suboptimal therapeutic out comes. MediGuard leverages the power of machine learning to develop a predictive model that forecasts potential overdoses in cancer patients, enhancing precision in medication dosages. This study involves collecting extensive patient information, such as demograph ics and medical history, and treatment specifics, to train a robust machine learning model. The model, integrated into a user-friendly Flask web application, provides real-time pre dictions and recommendations for clinicians. MediGuard aims to reduce the incidence of medication-related complications, improve patient outcomes, and streamline clinical work f lows. Thecore of MediGuard's functionality lies in its sophisticated models for ML, which have been trained and validated on extensive datasets to recognize patterns and predictors of overdose. These models are easily integrated into the current clinical workflows, allow ing for real-time risk assessments without disrupting standard patient care processes. The project demonstrates the potential in advancing personalized medicine and ensuring safer, more effective cancer treatment protocols.		