

Name of faculty	Project Title - 1	Project Abstract - 1	Project Title - 2	Project Abstract - 2
DR MADHAVI NIMKAR	predict stock market	how to predict stock market trends using ML	DATA STREAMING	To stream online data
Pankaj B. Devre	AI-Powered Health Awareness and Record System using Chatbot and QR Health Cards	<p>In many rural communities, people still struggle to access reliable health information and lack even basic medical records. This often leads to delays in treatment, poor hygiene practices, and avoidable health risks. Our project, aims to bridge this gap by combining two simple yet powerful tools: a voice-enabled, local language AI chatbot that offers instant health advice, and QR-coded health cards that store key medical details for each household.</p> <p>The chatbot helps villagers, especially women and the elderly, understand common health issues in a private, accessible way. The QR cards provide a quick summary of their health history, useful during emergencies or clinic visits. Project is not just about technology—it's about dignity, empowerment, and making essential health services more accessible in rural India.</p>	XAI Plug-in Tool: Model-Agnostic Explanations for Fraud Detection Systems	<p>This project focuses on developing a lightweight Python tool that can be plugged into any fraud detection model to provide explainable outputs using techniques like SHAP or LIME. Students will design the tool so that it works independently of the model's architecture — making it flexible and reusable. The goal is to empower AI systems with explainability, ensuring that users can understand how decisions are made regardless of the underlying algorithm.</p>

Shubhangi Kale	Implementing QNNs for Anomaly Detection in Urban Traffic Videos	<p>Anomaly detection in urban traffic surveillance is critical for identifying accidents, illegal maneuvers, and other irregular events that disrupt traffic flow. Traditional deep learning approaches have shown effectiveness but often require significant computational resources and struggle with scalability and generalization in dynamic urban environments. This project explores the use of Quantum Neural Networks (QNNs) as a novel approach to anomaly detection in traffic videos. By leveraging the principles of quantum computing—such as superposition and entanglement—QNNs offer the potential for improved representational power and more efficient learning from high-dimensional spatiotemporal data.</p> <p>Traffic video frames are preprocessed using classical techniques to extract key features, such as vehicle count, motion vectors, and temporal changes. These features are encoded into quantum states and passed through a parameterized quantum circuit (PQC) built using the PennyLane framework. The QNN is trained to classify traffic scenes as normal or anomalous based on learned quantum patterns.</p> <p>Initial experiments using simulated quantum environments demonstrate that QNNs can detect anomalies such as stalled vehicles, sudden congestion, and erratic motion patterns with competitive accuracy. The study concludes that quantum machine learning, though in its</p>	Hybrid Quantum-Classical Neural Network for Behavioral Anomaly Detection in Exam Surveillance	<p>Maintaining academic integrity during examinations is a critical challenge, especially with the increasing adoption of remote and automated proctoring systems. Traditional video-based monitoring systems often rely on classical machine learning models, which may be computationally expensive and limited in detecting subtle or context-dependent anomalies in student behavior. This project proposes a hybrid quantum-classical neural network (QNN) model for detecting behavioral anomalies in exam surveillance videos. By combining the representational strength of quantum computing with the scalability of classical deep learning, the proposed system aims to enhance the accuracy and efficiency of proctoring solutions.</p> <p>In the proposed framework, surveillance video frames are preprocessed using classical computer vision techniques to extract relevant behavioral features—such as gaze direction, head movement, body posture, and hand gestures. These features are partially encoded into quantum</p>
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Dr. Vaishali Wangikar	Automated Test Case Generation from Business Requirement Documents Using Advanced Machine Learning	"Develop a deep learning–based system that automatically extracts functional requirements from natural language business requirement documents (BRDs) and generates corresponding test cases (input, expected output, test conditions). The system should utilize state-of-the-art NLP models to understand context, identify scenarios, and translate them into structured test cases, reducing manual effort and improving QA coverage."	Elderly Care Companion Agent Problem: Social isolation and health monitoring for the elderly.	<p>"Design an AI voice assistant that can remind elders about medications, hold conversations, alert caregivers during inactivity or abnormal vitals, and adapt to emotional state." Elderly individuals, especially those living alone, often suffer from:</p> <p>Social isolation</p> <p>Missed medications or meals</p> <p>Cognitive decline</p> <p>Undetected health emergencies (falls, abnormal vitals)</p> <p>Lack of real-time support can lead to increased hospitalization, depression, or even mortality.</p>
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Mrs. Vaishali	Web Vulnerability Scanner	This project outlines the development of a web application aimed at identifying and addressing vulnerabilities in websites, emphasizing the importance of security against injection attacks and providing detailed analyses, system requirements, and design specifications.	Rule based Malware Scanner	This project title includes the detection of various kinds of malware using the rule based techniques, an example could be use of YARA defining the set f rules. Also the project could be performed by performing static analysis also.
Bhagyashree Ravindra A	Crowd Detection & Tracking	Implement the object detection models (YOLOv8, CenterNet, Faster R-CNN) for crowd detection and tracking, comparing the performance on existing datasets. The system that detects and tracks individuals in real-time.	Crowd Counting & Density Estimation	To Compare CNN-based models (CSRNet, MCNN) with transformer-based models for Crowd Counting & Density Estimation. Experiment with density map generation that results in more accurate people Counting based on density heatmap system.

Chaitanya Patil	Data-Efficient Vision Transformer Model for Handwritten Text Recognition in Multilingual Scripts	This module focuses on designing a robust handwritten text recognition system using Vision Transformers (ViTs). The model incorporates CNN-based feature extraction with Sharpness-Aware Minimization (SAM) and span masking to enhance generalization across diverse handwriting styles. The model will be evaluated on datasets like IAM, READ2016, and LAM. The aim is to minimize dependency on large annotated datasets while maximizing recognition accuracy, particularly for complex and multilingual handwritten documents.	Transformer-Driven End-to-End Machine Translation of Handwritten Text in Low-Resource Languages	This sub-project builds an end-to-end transformer-based machine translation model using modal contrastive learning strategies. The system integrates intra-modal and inter-modal contrastive loss to effectively align textual and visual modalities. The model targets translation of handwritten content into English and other languages from scripts like Devanagari and regional Indian languages. Evaluation will be conducted using BLEU scores on METIMT synthetic, subtitle, and real-world datasets.
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Dr. Pramod D Ganjewar	AI-Powered Diagnosis of Glaucoma from Retinal Images	<p>Glaucoma is a leading cause of irreversible blindness worldwide, often progressing without noticeable symptoms until advanced stages. Early detection is crucial to prevent vision loss. This project presents an AI-powered diagnostic system for automated detection of glaucoma using retinal fundus images. By leveraging machine learning and deep learning techniques, specifically convolutional neural networks (CNN), the system analyzes structural features of the optic nerve head and surrounding regions to accurately identify signs of glaucoma. The model is trained and validated on publicly available retinal image datasets, achieving high accuracy in classifying glaucomatous and healthy eyes. This approach aims to assist ophthalmologists in early diagnosis, reduce manual screening efforts, and enable large-scale, cost-effective glaucoma screening, especially in remote and underserved areas.</p>	Securing Patient Health Data Using Blockchain Technology	<p>The security and privacy of patient health records are critical challenges in modern healthcare systems. This project proposes a blockchain-based solution for securing and managing electronic health records (EHRs). Utilizing the decentralized, immutable, and transparent nature of blockchain technology, the system ensures that patient data is securely stored, shared only with authorized entities, and protected against tampering or unauthorized access. Smart contracts are implemented to manage permissions and access control, allowing patients to have full ownership over their health information. The proposed model enhances data integrity, confidentiality, and interoperability among healthcare providers, ultimately contributing to a more secure and patient-centric healthcare ecosystem.</p>
PUSHPMALA SHINDE	AIML IN HEALTH CARE	AIML IN HEALTH CARE		
Vinodini Gupta	Smart Money Transfer	<p>The next internet of things project is the Smart Money Transfer. Transactions are made possible through wearable devices like on your cell phone with apps like wristwatch.</p>	Play and Learn	<p>An IOT based learning system for children to teach them value of Money Time and Moral duties towards society</p>

Mrs.Rohini banait	"Money Laundering Detection Using Time-Series Analysis of Transactions"	<p>Money laundering involves hiding the origin of illegally obtained funds by passing them through complex sequences of financial transactions. Detecting such patterns requires not only analyzing individual transactions but also understanding how they evolve over time. This project proposes a time-series based approach to detect potential money laundering activities by analyzing transaction behavior across specific time intervals.</p> <p>The model uses time-series analysis techniques to identify unusual patterns such as sudden spikes in transaction amounts, frequent transfers within short durations, or inconsistent transaction timing. Real or synthetic transaction data is preprocessed and structured into sequences, enabling the use of models like LSTM (Long Short-Term Memory) networks or traditional time-series methods such as moving averages, seasonal decomposition, or ARIMA for anomaly detection.</p> <p>By continuously monitoring account behavior over time, the system can flag suspicious trends that may not be evident in isolated transactions. The objective is to develop an intelligent tool that assists financial institutions in early detection of money laundering activities, ensuring faster response and better compliance with Anti-Money Laundering (AML) regulations.</p>	"Machine Learning Model for Real-Time Money Laundering Alerts in Banking Systems"	<p>Money laundering is a serious financial crime that poses significant challenges to banks and regulatory authorities. Traditional rule-based detection systems often fail to identify complex and evolving laundering patterns in real time. This project proposes the development of a Machine Learning (ML) model that can detect and alert suspicious financial transactions indicating potential money laundering in real-time banking systems.</p> <p>The model is trained on synthetic or publicly available financial datasets containing labeled transaction records. Using supervised learning algorithms such as Logistic Regression, Decision Trees, or Random Forest, the system learns to classify transactions as either normal or suspicious based on features like transaction amount, frequency, location, customer profile, and account behavior.</p> <p>The goal is to build an efficient, lightweight model capable of processing live transaction data and generating immediate alerts for further investigation. The system</p>
Krunal Pawar	Voice Bots for business	Medical Image analysis	Voice Bots to replace your dost	Na

Vijaykumar P. Mantri	Multiple Face Recognition using Deep Learning	When it comes to biometric applications with image analysis and computer vision, face recognition ranks high and is a very important process. Face Recognition is a technology that identifies or verifies individuals based on facial features using computer vision and machine learning. In different personal and commercial fields many uses of face recognition applications which required faster face recognition in real time.	Multiple Face Recognition using Genetic Algorithm	When it comes to biometric applications with image analysis and computer vision, face recognition ranks high and is a very important process. Face Recognition is a technology that identifies or verifies individuals based on facial features using computer vision and machine learning. In different personal and commercial fields many uses of face recognition applications which required faster face recognition in real time.
Mayura Kulkarni	Automatic Query Expansion	Automatic Query Expansion	Personalization of Information	Personalization of Information



Nilesh D. Navghare	3D Printing for Education: Explore the use of 3D printing technology to produce educational materials, models, and prototypes, enabling hands-on learning experiences in fields such as science, engineering, and design	The integration of 3D printing technology into educational environments is revolutionizing traditional teaching methods by enabling hands-on, experiential learning. This paper explores the application of 3D printing in colleges to create customized educational materials, anatomical models, mechanical prototypes, and design components that enhance understanding and engagement across disciplines such as science, engineering, architecture, and design. By allowing students to visualize and interact with complex concepts, 3D printing fosters creativity, innovation, and problem-solving skills. The study also highlights the benefits of incorporating this technology in the curriculum, including improved comprehension, increased student motivation, and practical exposure to modern manufacturing techniques. Through case studies and implementation strategies, this paper aims to provide a roadmap for educational institutions seeking to adopt 3D printing as a transformative tool for teaching and learning.	AR-VR In Education Pedagogy (School & Higher College Education)	Augmented Reality (AR) and Virtual Reality (VR) are emerging as transformative tools in modern educational pedagogy, offering immersive and interactive learning experiences that go beyond traditional classroom boundaries. This project explores the integration of AR-VR technologies in both school and higher education settings, aiming to enhance student engagement, conceptual understanding, and retention. By simulating real-world scenarios, complex scientific phenomena, historical events, and 3D environments, AR-VR allows learners to visualize and interact with content in ways that were previously impossible. The study examines the pedagogical impact of AR-VR on various disciplines, evaluates current applications, and identifies the challenges and opportunities in adopting these technologies in educational institutions. The project also proposes implementation frameworks and best practices to guide educators in effectively incorporating AR-VR into their teaching strategies, ultimately contributing to a more dynamic,
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Prajakta Ugale	Real-Time Traffic Analysis and Smart Signal Management	<p>With the rapid increase in urban vehicle density, traditional fixed-time traffic signal systems are proving to be inefficient, often leading to unnecessary delays, fuel wastage, and congestion. To address these challenges, this project proposes a Real-Time Traffic Analysis and Smart Signal Management System that dynamically adjusts traffic signal durations based on live traffic conditions.</p>	Crop Health Monitoring Using Remote Sensing and Deep Learning	<p>Agricultural productivity is highly dependent on timely detection of crop health issues such as disease, pest infestation, and water stress. Traditional crop monitoring methods are often manual, time-consuming, and limited in spatial coverage. This project proposes an automated crop health monitoring system using remote sensing data and deep learning techniques to provide accurate and timely insights for farmers and agricultural stakeholders.</p>
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Chaitanya Bhosale	Diabetic Retinopathy Classification using Convolutional Neural Networks	<p>Diabetic Retinopathy (DR) is a leading cause of blindness among diabetic patients, caused by damage to the blood vessels in the retina. Early detection and classification of DR are crucial for timely treatment and prevention of vision loss. This project aims to develop an automated system for classifying the severity of Diabetic Retinopathy using Convolutional Neural Networks (CNNs), a powerful deep learning technique for image analysis.</p> <p>The proposed system utilizes a dataset of retinal fundus images, which are preprocessed to enhance image quality and remove noise. A CNN model is trained to learn discriminative features from these images and classify them into different stages of DR—ranging from No DR, Mild, Moderate, Severe, to Proliferative DR. The model architecture is optimized for accuracy and efficiency, and performance is evaluated using metrics such as accuracy, precision, recall, and F1-score.</p> <p>This project demonstrates the potential of deep learning in medical image analysis and provides a scalable solution for assisting ophthalmologists in DR screening. The system can be further integrated into mobile or web-based platforms for real-time diagnosis in remote or underserved areas.</p>	COVID-19 Detection from Chest X-rays using Deep Learning	<p>The COVID-19 pandemic has highlighted the urgent need for rapid and accurate diagnostic tools to assist healthcare professionals. Traditional testing methods like RT-PCR, while effective, are time-consuming and resource-intensive. This project proposes a deep learning-based approach for the automated detection of COVID-19 from chest X-ray images using Convolutional Neural Networks (CNNs).</p> <p>The system is trained on publicly available datasets containing labeled chest X-ray images of COVID-19, pneumonia, and normal cases. Preprocessing techniques such as image normalization and augmentation are applied to improve model generalization. A CNN architecture is designed to extract relevant features and classify the images into respective categories. The model's performance is evaluated using metrics like accuracy, precision, recall, and confusion matrix.</p> <p>This approach offers a fast, cost-effective, and scalable solution for preliminary COVID-19 screening.</p>
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Pranali P. Lokhande	Intelligent Traffic Violation Detection and Notification System Using Deep Learning	<p>Existing traffic monitoring systems face significant limitations in ensuring road safety and enforcing traffic laws. Traditional systems often rely on manual intervention for identifying violations such as speeding or illegal parking, leading to inefficiencies and delays. Many existing solutions use outdated object detection methods that fail to provide real time, high accuracy results, especially in high density or low light traffic scenarios. Additionally, these systems lack integration for automated notifications and incident reporting, making it difficult for authorities to respond promptly. The proposed intelligent vehicle tracking system addresses these limitations by integrating advanced artificial intelligence and computer vision technologies. Vehicle detection is performed using the YOLOv8 model, renowned for its high accuracy and real time processing capabilities, ensuring precise identification of vehicles in various conditions. Speed monitoring leverages OpenCV to calculate vehicle speeds based on timestamps and predefined distances, while license plate recognition is achieved using EasyOCR, which extracts text from plates and links it to an owner database. The system includes an incident reporting module, allowing users to upload accident photos, with geolocation APIs automatically providing the device's location for immediate response by law enforcement. Comparative testing revealed that the proposed system achieved a 95% success rate in vehicle detection and 92% in number</p>		
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Dr. Rahul B Adhao	Krishi Kala: eCommerce Platform for Rural India	<p>This project under Unnat Bharat Abhiyan aims to empower rural farmers and artisans by providing them with a centralized e-commerce platform to sell their products directly to customers. It eliminates middlemen, ensuring fair pricing and increased income for rural producers. Products like fruits, pickles, honey, jams, handicrafts, and traditional items will be featured. The platform will be developed using configurable tools like PrestaShop or WooCommerce, saving time and resources. Engineering colleges will assist in onboarding, legal compliance, and digital training. Courier partnerships will ensure reliable delivery logistics. Customer feedback will help improve product quality and seller performance. This initiative promotes inclusive development, student involvement, and long-term sustainability. (require simple/moderate coding skill)</p>	College Contact Directory Web Application Using Free and Open-Source Resources (Real Time Project)	<p>This project aims to develop a web-based contact directory for storing and retrieving student and faculty contact details efficiently. The system will address the challenge of identifying individuals from roll number-based email IDs by providing a centralized, searchable platform. Built entirely using free and open-source tools, it will utilize a free web server, open-source database, and free hosting solutions to ensure zero recurring costs. Secure user authentication will be implemented using free authentication services to protect sensitive information. Users will be able to search by name, roll number, department, or email ID. The application will feature role-based access, allowing faculty and administrative staff controlled privileges. A responsive interface will ensure accessibility across devices. This solution will streamline internal communication and enhance administrative efficiency within the college.</p>
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Dr. Kanchan Satish Dhot	Smart Contracts for Agricultural Transactions	The agricultural sector often faces challenges such as delayed payments, lack of transparency, and trust issues between stakeholders. Smart contracts, powered by blockchain technology, offer a secure, transparent, and automated solution for managing agricultural transactions. This study explores the design and implementation of smart contracts to facilitate agreements between farmers, distributors, and buyers without the need for intermediaries. The proposed system ensures that payments are automatically executed once predefined conditions—such as product delivery, quality verification, and quantity confirmation—are met. By leveraging decentralized, tamper-proof ledgers, the approach enhances trust, reduces transaction costs, and minimizes disputes. The adoption of smart contracts in agriculture has the		
Pramod Dharmadhikari	Disease Prediction Using Machine Learning	Disease prediction using machine learning is used in healthcare to provide accurate and early diagnosis based on patient symptoms. We can build predictive models that identify diseases efficiently. In this project, we will explore the end-to-end implementation of such a system.	Text Detection and Extraction using OpenCV and OCR	Optical Character Recognition (OCR) is a technology used to extract text from images which is used in applications like document digitization, license plate recognition and automated data entry. In this project, we explore how to detect and extract text from images using OpenCV for image processing and Tesseract OCR for text recognition.
Aarti Deshpande	Rriver monitoring using image-based techniques	Image-based river monitoring has been shown to significantly enhance data collection, improve analysis and accuracy, and support effective and timely decision making. The integration of remote and proximal sensing technologies with citizen science and artificial intelligence may revolutionize monitoring practices.	STOCK MARKET PREDICTION	The prediction of a stock market direction y serve as an early recommendation system for short -term investors and early financial distress warning system for a long term shareholder

Dr. Minakshi N Vharkate	AI-driven code learning platform: Sponsored project from worqhat company	It is used to enhance both student learning and administrative monitoring. This platform will feature an admin interface equipped with tools for generating coding questions using artificial intelligence and tracking student progress in real-time. On the student side, the interactive interface will incorporate a code editor that not only provides real-time AI suggestions while coding but also delivers personalized feedback for each submitted assignment, thereby fostering a more efficient and tailored learning experience.	An effective optimized ensemble ML approach for classifying liver cirrhosis disease	<p>Liver cirrhosis is a late stage of scarring (fibrosis) of the liver caused by many forms of liver diseases and conditions, such as hepatitis and chronic alcoholism. Early diagnosis and management can help slow the progression of the disease and improve quality of life. Developing more accurate and non-invasive methods for the early detection of liver cirrhosis to enhance timely intervention and improve patient outcomes. Effective prediction reduces overall cirrhosis patients' mortality due to various bleeding, making further study in this field a significant task.</p> <p>Therefore, we propose a novel ensemble machine learning based approach for classification. Label encoding and data normalization using the min-max approach are performed in preprocessing. Then, characteristics such as age, gender, Liver function tests (AST, ALT, alkaline phosphatase, bilirubin) and Medical history and comorbidities are retrieved using the ConvNeXt approach. Using the Improved Grasshopper optimization algorithm (IGOA), the essential features that increase the accuracy even more were selected. Finally,</p>
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Sharmila Babasaheb Khar	Multimodal Emotional Recognition for Online Teaching	<p>Emotion recognition is a critical component in enabling machines to understand and respond to human affective states, with applications ranging from mental health monitoring to intelligent tutoring systems. Traditional approaches relying on a single modality often suffer from ambiguity and limited accuracy due to the complexity of emotional expression. This research proposes a multimodal deep learning framework for robust emotion detection by integrating vocal, and visual cues.</p>	Compositional and Reasoning-based VQA	<p>Visual Question Answering (VQA) tasks that involve compositional reasoning remain a significant challenge for current deep learning models, which often rely on dataset biases rather than true understanding of image-question semantics. This research proposes a hybrid neuro-symbolic architecture that explicitly models multi-step reasoning processes to improve performance on compositional VQA benchmarks. The approach leverages object-centric representations and scene graphs extracted from images, which are then processed using a Transformer-based controller that dynamically selects and executes neural modules corresponding to reasoning operations such as filtering, counting, comparison, and relational inference. To enhance interpretability and generalization, symbolic logic components are integrated for explicit execution tracking.</p>
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Dr. Minakshi N Vharkate	AI Powered Personalized Healthcare Recommender	<p>In the evolving landscape of healthcare, the integration of Artificial Intelligence (AI) has introduced an innovative approach to personalized patient care. An extensive framework is introduced for an AI-powered healthcare recommender system, dedicated to providing customized health and wellness recommendations. Users create profiles to maintain health history, preferences, and real-time data, while recommendations are generated using advanced algorithms, regularly refined for accuracy. Real-time health monitoring, via wearable devices and health apps, ensures the latest health metrics inform recommendations. The AI-driven recommendation engine draws on the latest medical research to provide evidence-based advice. Privacy and data security are priorities, with stringent measures to protect sensitive health data and comply with data protection regulations. The user-friendly interface offers easy access to recommendations, progress monitoring, and health-related information. Continuous improvement is core, with user feedback and data analytics driving recommendation enhancements. This framework harnesses AI's potential in healthcare, emphasizing personalization, security, and ongoing optimization for individuals and the broader healthcare ecosystem.</p>	Real-Time Patient Health Monitoring System	<p>The incidence of diabetic retinopathy (DR) has increased at a rapid pace in recent years all over the world. Diabetic eye illness is identified as one of the most common reasons for vision loss among people. To properly manage DR, there has been immense research and exploration of state-of-the-art methods using artificial intelligence (AI) enabled models. Specifically, AI-empowered models combine multiple machine learning (ML) and deep learning (DL) based algorithms to improve the performance of the developed system architectures that are commercially utilized for the detection of DR disease. However, these models still exhibit several limitations, such as computational complexity, low accuracy in DR stage detection due to class imbalance, more time consumption, and high maintenance cost. To overcome these limits, a more advanced model is required to accurately predict the DR stage in the initial stages. For example, the identification of DR disease in the initial stage helps the ophthalmologist to make an accurate and safe diagnosis, and</p>
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Dr. Shitalkumar A Jain	Application of Blockchain and AI in Healthcare System (supply chain management / diagnostic accuracy / patient data security and privacy)	Key problem areas in healthcare system include patient data security and privacy, interoperability between different stakeholders or standards, supply chain management of medicines and medical equipments, and disease diagnostic accuracy. Integrating blockchain and AI can create more secure, efficient, and patient-centric healthcare systems.	Application of Blockchain and Machine Learning in Defence System (threat detection / autonomous operations / supply chains and data management)	Security and transparency in supply chains of defence equipments, important and confidential data management, and secure communication using blockchain, while machine learning can be used for threat detection, autonomous operations, and decision-making.
Kavitha S	Carbon Emission Prediction Model for Urban Planning Using Machine Learning and Geospatial Data	Rapid urbanization has escalated carbon emissions, posing significant challenges for sustainable city development and environmental health. Existing estimation methods are often retrospective and lack the predictive accuracy and spatial resolution needed for proactive urban planning. This study proposes a Carbon Emission Prediction Model integrating machine learning algorithms with geospatial and temporal data to forecast city-level emission patterns. The model incorporates multi-source datasets, including Sentinel-2 satellite imagery, OpenStreetMap land-use data, traffic density, population distribution, and energy consumption statistics. Advanced hybrid architectures combining Convolutional Neural Networks (CNNs) for spatial feature extraction and Long Short-Term Memory (LSTM) networks for temporal trend modeling are employed. The model may be deployed as an interactive GIS-enabled dashboard, enabling policymakers to visualize emission hotspots and simulate the		

Dr.Rajeshwari Goudar	Optimization of real-time emergency response system using deep learning and data analytics	<p>Efficient and timely emergency response is very crucial for saving lives and minimizing damage during critical situations such as medical emergencies, accidents, and natural disasters. This proposed work focuses on optimizing real-time emergency response systems by using deep learning and data analytics techniques. By analyzing historical emergency call data and real-time traffic information, the system predicts high-risk zones and estimates current traffic conditions. These insights are integrated with advanced route optimization algorithms to dynamically determine the fastest routes for emergency vehicles, thereby reducing response times. An interactive dashboard can be provided for real-time situational awareness for emergency service operators. The proposed solution aims to enhance operational efficiency, improve ambulance dispatch effectiveness, and ultimately save the lives by ensuring faster emergency response in dynamic urban environments.</p>	Intelligent pesticide spray control for better yield of fruits using deep learning	<p><b>Abstract</b> Efficient and precise pesticide application is essential for maximizing fruit yield while minimizing environmental impact and pesticide costs. Traditional pesticide spraying methods lack accuracy and often lead to over-application or missed infestations, causing crop damage or environmental pollution. This proposed work aims to develop an advanced deep learning-based system that accurately detects pest presence and infestation severity in fruit orchards through image analysis. The system integrates environmental sensor data and real-time monitoring to recommend optimized pesticide spray schedules and dosages. Leveraging deep neural networks, the solution targets improved pest management, leading to enhanced fruit yield and sustainable farming practices.</p>
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Priyanka Mane	Telehealth Integration for Bridging Rural–Urban Healthcare Gaps	<p>Access to quality healthcare remains a significant challenge for rural and underserved populations, where geographical isolation, shortage of medical professionals, and inadequate infrastructure hinder timely diagnosis and treatment. This project proposes the design and implementation of a telehealth integration system aimed at bridging the rural–urban healthcare gap. The solution will leverage secure video consultations, electronic health records (EHR), and AI-assisted preliminary diagnostics to connect rural patients with urban-based healthcare specialists. The platform will be optimized for low-bandwidth environments, ensuring accessibility even in regions with limited internet connectivity. Additional features such as remote prescription services, health monitoring through IoT-enabled devices, and multilingual user interfaces will cater to diverse community needs. By improving healthcare accessibility, reducing travel costs, and enabling early interventions, the proposed telehealth system seeks to enhance health outcomes, promote equity in medical services, and support sustainable healthcare delivery in rural India.</p>	Digital Health Access Platform for Remote Populations	<p>Remote and underserved communities often face significant barriers in accessing timely and quality healthcare due to geographical isolation, inadequate medical infrastructure, and a shortage of healthcare professionals. This project proposes the development of a Digital Health Access Platform designed to deliver essential healthcare services to such populations through an integrated, technology-driven approach. The platform will provide teleconsultations, AI-assisted symptom assessment, electronic health record (EHR) management, and remote prescription services. It will be designed to function in low-bandwidth environments, ensuring reliability in areas with limited internet connectivity. Additional modules will include multilingual support, community health awareness resources, and integration with IoT-based health monitoring devices for chronic disease management. By connecting patients with qualified healthcare providers and enabling continuous remote care, this platform aims to improve</p>
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Neha Hajare	AI-Powered Personalized Learning Recommendation System	With the rise of e-learning platforms, students are often overwhelmed by generic content. This project proposes an AI-based recommendation engine that uses collaborative filtering, content-based filtering, and deep learning models to suggest personalized learning materials based on a student's skill level, past performance, and learning style. The system will integrate with an online learning portal, adapt recommendations in real-time, and enhance student engagement through tailored course paths.	AI-Based Mental Health Chatbot Using Sentiment and Emotion Analysis	Mental health support is increasingly sought online, yet many systems lack emotional intelligence. This project proposes a chatbot that analyzes user messages using NLP and deep learning sentiment models (BERT, RoBERTa) to detect emotional states like sadness, stress, or anxiety. Based on detection, the chatbot will respond empathetically, provide coping resources, or escalate to human assistance when needed.
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