

# HANDSFREE ASSIST APPLICAITON IN PYTHON

## A PROJECT REPORT

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**Under the Guidance of**

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Submitted in partial fulfillment of the requirements for the degree of  
Bachelor of Technology in Computer Science and Engineering

to



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# Declaration

We hereby declare that the work presented in this report entitled “HANDS-FREE ASSIST APPLICATION IN PYTHON”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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# Acknowledgements

It gives us a great sense of pleasure to present the report of the B.Tech Project undertaken during B.Tech Final Year. We owe special debt of gratitude to Mr.Manish Kumar and Mr.Akhilesh Verma , Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for their constant support and guidance throught the course of our work. Their sincerity, thoroughness and perseverance have been a constant source of inspiration for us.

We also take the opportunity to acknowledge the contribution of Dr.Anu Chaudhary, Head, Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all faculty and staff members of the department for their kind assistance and cooperation during the development of our project.

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# Abstract

Today there is huge Advancement in the Technical field which is increasing day by day. In early days there were only computer systems where we were able to perform only few tasks, but today new technologies like machine learning, artificial intelligence, deep learning, and few some others have made computer systems so advance that we can perform any type of task with them. In recent years, Artificial Intelligence (AI) have done remarkable progress and its Capability is increasing day by day.

One of the application Area of AI is Natural Language Processing (NLP). Natural Language Processing (NLP) helps Humans to communicate with the computer system in their own Language. For example, Voice Assistant. Various voice assistants were developed and they are still being improved more for better performance to overcome struggling of humans to interact with their machine. we are trying to develop a voice assistant using python which will help user to perform any type of task without interaction with keyboard.

The aim of this paper is to study how voice assistants behaves smartly and can be used to get everyday work done and also be used for educational purpose also.

# SMART TRAFFIC MANAGEMENT SYSTEM

## A PROJECT REPORT

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# Acknowledgements

We extend our heartfelt gratitude to our guide, Ms.Mahima Saxena, for her invaluable assistance throughout this endeavor. Additionally, we express our appreciation to Dr.Shashank Sahu, Mr.Sandeep Yadav, Mr.Vikas and Mr.Ashish Kumar, esteemed members of our project review committee, for their insightful advice and constructive critiques.

Moreover, we would like to sincerely thank our parents for their unwavering support and our friends for their encouragement. Special recognition goes to Dr.Anu Chaudhary, our Head of Department, for his guidance and support.

# Abstract

In urban environments, the ever increasing traffic congestion has become a significant concern, affecting the economy, environment, and quality of life. To address this challenge, smart traffic management systems have emerged as a promising solution, leveraging advanced technologies such as machine learning. This report provides a comprehensive analysis of the application of machine learning in smart traffic management systems.

The report begins by discussing the various components of smart traffic management systems, including data collection, analysis, and decision-making. It then delves into the role of machine learning algorithms in each of these components, highlighting their capability to extract valuable insights from large volumes of traffic data, predict traffic patterns, and optimize traffic flow in real-time.

Overall, this report serves as a comprehensive resource for understanding the integration of machine learning techniques in smart traffic management systems, offering insights into their benefits, challenges, and future prospects in creating more efficient and sustainable urban transportation networks.



# REAL TIME AIR QUALITY MONITORING SYSTEM

A PROJECT REPORT  
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# Acknowledgement

We would like to express our sincere gratitude to everyone who contributed to the development and success of the Real-Time Air Quality Monitoring System.

Our heartfelt thanks go to Mr. Updesh Kumar Jaiswal (Assistant Professor), insightful feedback, and unwavering support were instrumental throughout the entire process.

We are also grateful to our technical team, including our team members, for their hard work, expertise, and dedication in developing and implementing the system. Their collaboration and innovative ideas were critical in overcoming the various challenges faced during the project.

Special thanks to the kaggle, whose valuable input on air quality standards and monitoring techniques greatly enhanced the accuracy and reliability of our system.

We would like to acknowledge the local authorities and community members who cooperated with us, providing essential data and feedback that informed our system's development and deployment.

Finally, we are deeply thankful to our families and friends for their encouragement and understanding during the course of this project.

This project would not have been possible without the collective efforts and support of all those mentioned above.

Thank you.

# Abstract

Air quality prediction plays a pivotal role in safeguarding public health and environmental sustainability. This paper presents a comprehensive review of methodologies and advancements in air quality prediction models. It outlines the fundamental principles underlying air quality prediction, including the influence of meteorological factors, pollutant emissions, and geographical features. Traditional regression-based models, machine learning techniques, and hybrid approaches are discussed, highlighting their strengths and limitations. Furthermore, the integration of remote sensing data, IoT devices, and emerging technologies such as artificial intelligence and deep learning is explored for enhancing prediction accuracy and spatial resolution. The review also addresses challenges such as data sparsity, model interpretability, and the need for real-time prediction systems. Finally, future directions in air quality prediction research, including the development of ensemble models, uncertainty quantification, and incorporation of socio-economic factors, are proposed to foster more robust and actionable air quality forecasting systems.

# AGROSPHERE PROJECT REPORT

## A PROJECT REPORT

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We hereby declare that the work presented in this report entitled “AGRO-SPHERE”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma from any other University or Institute. We have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, experiments, and results, that are not our original contributions. We have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

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We take this opportunity to express our heartfelt gratitude to all those who have contributed to the successful completion of our B.Tech group project on "AgroSphere." We sincerely thank our distinguished project guide, Mr. Sandeep Yadav, for his essential advice, knowledge, and continuous support. The guidance, support, and perception provided by Mr. Sandeep Yadav have been invaluable in molding our research project. His commitment to academic success and his enthusiasm for the subject matter have served as a consistent source of motivation for the group.

We would like to express our gratitude to Prof. Anu Chaudhary, Head of the CSE Department, and Prof. Shashank Sahu, Professor-in Charge of the CSE Department for providing us the opportunity to develop this project and faculty members for their insightful lectures which greatly aided in our comprehension of the ideas used in this project. We would especially like to thank our friends and peers for their support, conversations, and collaborative attitude during the project. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible.

It has been a pleasure to collaborate, and we are pleased with our group's accomplishments. Finally, we would like to thank our family for their love, support, and encouragement during our academic career. We are grateful to everyone who contributed to the project's successful completion. It has been a journey of shared learning and growth.

# Abstract

In the swiftly advancing agricultural sector of today, technology plays an indispensable part in empowering farmers worldwide and bringing about a paradigm shift. As the digital revolution affects all industries, farmers must now more than ever involve novel methods to improve their efficacy as well as safeguard their livelihoods. This demand stems from the detailed web of challenges farmers face, which include access to critical information, weather variability, pricing complexity, and market unpredictability[2].

Considering how vital technology is to reshaping the agriculture industry, the Agrosphere initiative stands out as a pioneer in advancement and farmer participation. Agrosphere's fundamental philosophy is efficacy and sustainability, using technology to close the disconnect between farmers and contemporary farming methods. Agrosphere provides an intuitive user interface designed specifically for the demands and constraints faced by farmers, enabling them to optimally utilize technology in operating their business ventures in an era where technological understanding is fundamental.

Through the comprehensive platform provided by the Agrosphere web application, farmers can list a wide range of commodities, streamline pricing strategies, access real-time weather forecasts, request quick help via a chat-based interface, and remain apprised of the government's initiatives and financing programs. Combining these essential elements allows Agrosphere to promote resilience and long-term viability in the agricultural environment while also expediting the running of farms.

Project ID: 24/C.S.E./1/5

# CREDIT CARD SCORE ANALYSER AND PREDICTOR

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We hereby declare that the work presented in this report entitled “CREDIT CARD SCORE ANALYSER AND PREDICTOR”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. We have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. We have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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# Acknowledgements

We wish to express our sincere gratitude to all those who provided us with the opportunity to undertake and complete this project on the "Credit Card Score Predictor & Analyzer."

First and foremost, we are profoundly grateful to our project supervisor, **MS. NEERJA ARORA**, whose invaluable guidance, continuous support, and insightful feedback were essential throughout the duration of this project. **MS. NEERJA ARORA** extensive knowledge in data science and machine learning was instrumental in navigating the complexities of our research.

We also extend our heartfelt thanks to **DR. SHASHANK SAHU**, Head of the Department of Computer Science & Engineering, for providing us with the requisite facilities and resources.

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Additionally, we acknowledge the support and camaraderie of our fellow classmates and friends, whose constructive feedback and collaborative spirit were invaluable throughout this endeavor. Their contributions through brainstorming sessions and peer reviews were critical in refining our approach.

Finally, we express our profound appreciation to the entire faculty of the Department of Computer Science & Engineering, **AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD** at **DR. APJ ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW**. The dedication and mentorship provided by our professors have been pivotal in shaping our academic careers and ensuring our success.

# SMART ATTENDANCE SYSTEM USING FACE RECOGNITION

## A PROJECT REPORT

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# Acknowledgements

We extend our sincerest gratitude to all those who have contributed to the realization of our project, the Smart Attendance System using Facial Recognition.

Foremost, we express our deepest appreciation to our mentor, Dr. Anu Chaudhary, and co-guide Ms. Swati Tomar, whose guidance, support, and encouragement have been indispensable throughout this endeavor. Their expertise and unwavering dedication have been a constant source of inspiration. We are also indebted to the team whose collective expertise and commitment have been pivotal in the conception and execution of the Smart Attendance System. Each member's contribution has been invaluable in bringing this project to fruition.

The Smart Attendance System stands as a testament to the collaborative spirit and collective determination to create meaningful solutions that enhance efficiency and accuracy in attendance tracking. To everyone who has played a role, whether large or small, in the journey of the Smart Attendance System, we offer our heartfelt appreciation. Your contributions have been instrumental in shaping the success of this project, and we are honored to have collaborated with such talented and passionate individuals.

Lastly, we extend our sincere thanks to the entire AKGEC family for their support in the completion of this project report. Your encouragement and assistance have been invaluable in achieving this milestone.

# Abstract

The success of an educational institute begins by engaging students and having regular attendance of students. It is difficult for teachers and students to build a strong relationship if students are frequently absent. This hampers teachers and students to develop their skills and make progress. In many schools, the school budgets are based on the average daily attendance of the school. If the attendance rates are low, then school budgets suffer. Therefore, the educational institute needs to have high-quality attendance data. These data provide essential information for the institute to formulate policies, programs, and practices to improve attendance rates.

Even though keeping attendance data is an essential part of educational institutes, there has been little advancement in the attendance system. Still, many institutes use traditional handwritten attendance or use some spreadsheet on the computer. This makes it hard for teachers to track the students' attendance data and their progress. The chances of attendance fraud in this system are relatively higher than in an automated attendance system. Unless the attendance data is correct, schools cannot formulate proper policies and practices to improve the quality of education.

This project will help eliminate the traditional attendance system, minimize manipulation during attendance, and record the arrival time of the students. Like every application, there are some setbacks to this application. The application is not one hundred percent accurate. Different factors such as image quality and lack of data sets can decrease the efficiency of the application. Administrators must add user information manually and with data sets stored associated with the risk of being lost or stolen.

# CHRONIC KIDNEY DISEASE PREDICTION USING MACHINE LEARNING

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# Acknowledgements

We would like to express our sincere gratitude to all those who have contributed to the completion of this research project. First and foremost, we extend our appreciation to our project guide, Mr. Ashish Kumar, for their invaluable guidance, support, and encouragement throughout this endeavor. Their expertise and insightful feedback have been instrumental in shaping the direction of our research.

We are also thankful to Ajay Kumar Garg Engineering College for providing the necessary resources and facilities to conduct this research. Additionally, we would like to acknowledge the contributions of our colleagues and peers who have provided assistance and collaboration during various stages of the project.

Furthermore, we express our gratitude to the participants and health-care professionals who generously shared their time and expertise, contributing to the success of this study. Their involvement has enriched our understanding of chronic kidney disease and has been indispensable in the development and validation of predictive models.

Last but not least, we would like to thank our families and friends for their unwavering support and encouragement throughout this journey. Their understanding and encouragement have been a source of strength and motivation.

This research would not have been possible without the collective efforts of everyone involved, and for that, we are truly grateful.



# Abstract

To mitigate adverse effects and unfavorable consequences, accurate diagnosis of chronic kidney disease (CKD) is crucial. This research paper delves into the application of machine learning algorithms for the prediction of CKD, evaluating the effectiveness of various techniques including Decision Tree, Random Forest, Logistic Regression, Support Vector Machine (SVM), Gradient Boosting, and Artificial Neural Network (ANN). The study utilizes a dataset comprising patient data collected from hospitals and repositories, covering demographic information, medical history, and laboratory results. Preprocessing techniques are employed to ensure data accuracy and consistency, followed by model building using selected algorithms. Performance evaluation metrics such as accuracy, F1 score, and area under the receiver operating characteristic curve (AUC-ROC) are utilized to assess the predictive power of each model. Ethical considerations regarding patient data privacy and confidentiality are strictly adhered to throughout the study. The findings of this research contribute to the development of accurate predictive models for CKD diagnosis, with potential implications for early detection and improved patient outcomes in clinical practice.

# EXAMINATION PORTAL

## A PROJECT REPORT

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to



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May 23, 2024

  
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# Declaration

We hereby declare that the work presented in this report entitled “ON-LINE EXAMINATION PORTAL”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma from any other University or Institute. I have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, experiments, and results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

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# Acknowledgements

The present project work is the several days study of the various aspects of the project development. During this effort in the present study, we have received a great amount of help from our Director General of **AJAY KUMAR GARG ENGINEERING COLLEGE**, which we wish to acknowledge and thank from the depth of our hearts.

I am thankful to our Director General **R.K. Agarwal** , for permitting and encouraging me in doing this project.

I express my sincere thanks to our Academic Professor In-charge **Dr. Shashank Sahu**, for encouragement and suggestions to the successful completion of my project.

My sincere thanks to our Professors, Head of the Department in CSE whose motivation and constant encouragement has led me to pursue a project in the field of software development.

I am very much obliged and thankful to our guide **Ms. Gunjan Saxena** (Assistant Professor) for providing this opportunity and constant encouragement given by her during the course.

My Parents have put myself ahead of themselves. Because of their hard work and dedication, I have had opportunities beyond my wildest dreams. My heartfelt thanks to them for giving me all I ever needed to be a successful student and individual.

Finally we express my gratitude to all our other professors, classmates, friends, neighbors and my family members who helped me for the completion of my project and without infinite love and patience this would never have been possible.

Project ID: 24/CSE/1/09

# Fingerprint Authentication System Using ML and IOT

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We hereby declare that the work presented in this report entitled “Fingerprint Authentication System Using ML and IOT”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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# Acknowledgements

It gives us a great sense of pleasure to present the report of the B.Tech Project undertaken during B.Tech Final Year. We owe special debt of gratitude to **Mr.Ashish Kumar** and Mr. **Akhilesh Verma** , Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for their constant support and guidance through the course of our work. Their sincerity, thoroughness and perseverance have been a constant source of inspiration for us.

We also take the opportunity to acknowledge the contribution of **Dr.Shashank Sahu, Professor In-Charge, Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad** for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all **faculty and staff members** of the department for their kind assistance and cooperation during the development of our project.

# Abstract

The ongoing progress in the field of Internet of Things (IoT) permits to embed security system as a part of it. In order to deal with security, authentication of legit users and in turn warning of unauthorized person plays an essential task. This is the Fingerprint Authentication System for the general public. This system is designed to verifying an individual's identity based on one or more of their fingerprints.

This project proposes to design an intelligent entrance control system based on biometric train in terms of fingerprint which also incorporates IoT functionality for indication of illegitimate users. The proposed system utilizes fingerprint module for authentication procedure and uses electromechanical relay switch to control rotating door locking system for door entrance using Raspberry PI 3 processor.

# SMART CONTRACT E-VOTING SYSTEM

A PROJECT REPORT  
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# Acknowledgements

We take this opportunity to thank project Guide **Mr. Varun Kumar** and other faculty members who helped in preparing the guidelines.

We extend our sincere thanks to one and all of the AKGEC family for the completion of this document on the project report format guidelines.

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# Abstract

Traditional voting systems face longstanding challenges related to integrity, transparency, and security, often leading to public distrust and allegations of fraud. These issues undermine the democratic process, highlighting the need for a more reliable and secure voting solution. The '**Smart-Contract E-Voting System**' addresses these concerns by leveraging blockchain technology, Aadhar-based authentication, and smart contracts. This innovative approach ensures a secure, transparent, and efficient electoral process, enhancing voter confidence and accessibility.

The system utilizes the **Interplanetary File System (IPFS)** for decentralized data storage, mitigating the risks of manipulation and unauthorized access. Aadhar-based authentication bolsters identity verification, significantly reducing the likelihood of fraudulent voting. Smart contracts, which are programmable agreements executed automatically, manage the voting process, ensuring accuracy and speed while fostering trust and transparency. An intuitive user interface coupled with real-time notifications further enhances the system's accessibility and voter engagement.

**Blockchain technology**, particularly the Ethereum blockchain, underpins this e-voting system with its decentralized and transparent nature. Ethereum stands out for its support of smart contracts, which are written in Solidity and enable a wide range of decentralized applications. Operating on a distributed network, Ethereum ensures transparency and security through decentralized consensus mechanisms. Despite challenges such as scalability and gas fees, Ethereum's robust infrastructure empowers smart contracts to effectively modernize and secure the electoral process, fostering democratic governance and restoring public trust in elections.



# Driver Drowsiness Detection System

## A PROJECT REPORT

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We hereby declare that the work presented in this report entitled “Driver Drowsiness Detection System”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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# Acknowledgements

We extend our heartfelt gratitude to Mr. Sandeep Yadav for his exceptional guidance and unwavering support throughout this project. His expertise and encouragement have been instrumental in shaping our ideas and strategies.

We also thank the faculty members of the Department of Computer Science Engineering at Ajay Kumar Garg Engineering College for their continuous encouragement and constructive feedback, fostering a conducive learning environment.

Special appreciation goes to Dr. Anu Chaudhary, Head of the Department, for their visionary leadership and commitment to academic excellence, guiding us through the project stages.

Acknowledgment is due to the developers, researchers, and experts whose pioneering work paved the way for advancements in driver drowsiness detection systems, inspiring our approach to tackling challenges in this domain.

We express gratitude to the entire project team for their collaborative efforts and dedication, enriching the project's quality.

Finally, we thank everyone who contributed directly or indirectly to this project's realization. Your support and expertise have been invaluable, and we are grateful for the opportunity to undertake this endeavor under your guidance.

# Abstract

Driver drowsiness is a significant factor contributing to road accidents and fatalities worldwide. Recognizing the signs of fatigue and microsleep at the wheel can prevent serious accidents. Traditional methods of detecting tiredness often rely on subjective observations or intrusive techniques that may distract drivers or require expensive sensors.

In this project, we propose a lightweight, real-time driver drowsiness detection system implemented in a mobile application. The system captures video recordings and employs image processing techniques to identify the driver's face in each frame. Facial landmarks are detected, and metrics such as Eye Aspect Ratio (EAR) and Eye Closure Ratio (ECR) are computed to assess the driver's level of drowsiness using adaptive thresholding.

To evaluate the effectiveness of our approach, we employ machine learning algorithms. Our empirical results demonstrate that the proposed model achieves an accuracy of 84

By providing early warnings to drivers, our system aims to reduce the risk of accidents caused by drowsy driving. The lightweight nature of our solution makes it suitable for integration into existing vehicle systems or standalone mobile applications, offering a cost-effective and non-intrusive solution to enhance road safety.

Project ID: 24/CSE/1/12

# Real Estate Customer Relationship Management

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# DECLARATION

We hereby declare that the work presented in this report entitled “Customer Relationship Management”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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Place: Ghaziabad

Date: 25/05/2024



## ABSTRACT

Our project "CUSTOMER RELATIONSHIP MANAGEMENT" is related to the online application of CRM for the real estate business. The real estate management system is an advanced solution for estate problems. Users can view all the properties listed by sellers that are secure and verified, and then send them to the builder. The Real Estate System buys the property and verifies it, and the online service is provided by us free of charge. Registration is also free of cost. Users can register using the Real Estate System, then buy the property and verify it. After a few hours or days, our team will provide the estate solution. The software is designed to be reliable for users. Our main concept is to provide the best and quickest results to the user.

## ACKNOWLEDGEMENT

I would like to express my sincere gratitude to my project supervisor, **Mr. Beerbal Solanki**, for their invaluable guidance and support throughout this project. I also extend my thanks to Department Of CSE and its faculty for providing the resources and environment necessary for completing this work. Special thanks to my project teammates, **Abhinav Gangwar, Avinash Chaudhary, Anant Dwivedi, and Abhishek Singh**, for their collaboration, and to my family and friends for their unwavering support and encouragement.

I would also like to acknowledge the assistance and cooperation of our peers and fellow students, who provided valuable insights and feedback during various stages of the project. Their critical evaluations and suggestions helped us refine our approach and improve the overall quality of our work.

Moreover, I am profoundly thankful to my family and friends for their unwavering support, patience, and encouragement throughout the duration of this project. Their understanding and belief in my abilities provided the emotional strength needed to persevere through the demanding phases of research and development.

Finally, I extend my gratitude to all those who, directly or indirectly, contributed to the successful completion of this project. Your contributions, no matter how small, were greatly appreciated and played a significant role in bringing this project to fruition.

Thank you all for your invaluable support and encouragement.

# ROAD COMMUTER NIGHT VISION DETECTION SYSTEM

## A PROJECT REPORT

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We hereby declare that the work presented in this report entitled “ROAD COMMUTER NIGHT VISION DETECTOR SYSTEM””, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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# Acknowledgements

It gives us a great sense of pleasure to present the report of the B. Tech Project undertaken during B.Tech. Final Year. We owe special debt of gratitude to Dr. Nishant Kumar Pathak, Associate Professor, Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for his constant support and guidance throughout the course of our work. His sincerity, thoroughness and perseverance have been a constant source of inspiration for us. It is only his cognizant efforts that our endeavors have seen light of the day.

We also take the opportunity to acknowledge the contribution of Dr. Anu Chaudhary , Head of Department, Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project.

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# Abstract

Road accidents have always been a major concern and several safety measurements and regulations have been implemented for the public to abide by so far. The probability of accidents increases multiple-folds during nighttime and under various conditions such as foggy and rainy because of the blurred and low visibility. The main objective project lies to deploy a model that minimizes the risk of road accidents by predicting the upcoming vehicles and pedestrian beforehand.

In the proposed vehicle detection system, YOLOV3(You Only Look Once)object detection algorithm has been used for tracking vehicles and pedestrians. Dataset taken is a subset of COCO-dataset, images been pre-processed , loading the model architecture, performing detection algorithm , assigning the detected objects to the labeled classes and producing output to the screen.

The experimental results verify that using the proposed OpenCV and YOLOV3 method, the detection can be done with high accuracy on images as well as real-time. Frame reading speed can be improved using the GPS support in order to process on real-time.

# PLANT DISEASE DETECTION USING MACHINE LEARNING

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# Acknowledgements

Apart from my efforts, the success of the project largely depends on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project. I would like to express a deep sense of gratitude to Professor Dr. Anu Chaudhary, our Head of the department, Mr. Akhilesh Verma, the project coordinators for their cordial support as they gave the permission to use all required equipment and the necessary material to complete the project. I would like to extend my sincerest gratitude to Mr. BN Pandey for her guidance and supervision as well as for providing necessary information regarding the project and also for the support in completing the project. Finally, I also extend my heartiest thanks to my parents, friends, and well-wishers for being with me and extending encouragement throughout the project.

# Abstract

The agricultural sector plays a critical role in sustaining global food security and supporting the livelihoods of millions of people worldwide. However, one of the most significant challenges facing farmers and agricultural experts is the prevalence of plant diseases, which can lead to substantial losses in crop yield and quality if left untreated. Early detection and timely intervention are essential to mitigate the impact of these diseases and ensure sustainable agricultural production.

Traditional methods of disease detection in plants often rely on visual inspection by trained experts, which can be time-consuming, labor-intensive, and prone to human error. In recent years, there has been a growing interest in leveraging advancements in machine learning (ML) and computer vision to develop automated systems for detecting plant diseases accurately and efficiently.

This project aims to contribute to this emerging field by exploring the application of machine learning techniques for the detection of plant diseases. Specifically, we focus on the use of convolutional neural networks (CNNs), a powerful class of deep learning algorithms known for their effectiveness in image classification tasks. By training a CNN model on a dataset of plant images labeled with disease categories, we seek to develop a robust system capable of accurately identifying diseased plants from healthy ones based on visual cues.

The significance of this research lies in its potential to revolutionize the way plant diseases are detected and managed in agricultural settings. By providing farmers with an automated tool for early disease detection, we can help minimize crop losses, optimize resource allocation

# SIGN LANGUAGE RECOGNITION SYSTEM

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# Declaration

We hereby declare that the work presented in this report entitled “SIGN LANGUAGE RECOGNITION SYSTEM”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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# Acknowledgements

We extend our sincerest gratitude to all those who have contributed to the realization of our project, the Sign Language Recognition System.

Foremost, we express our deepest appreciation to our mentor, Mr. Sandeep Yadav, whose guidance, support, and encouragement have been indispensable throughout this endeavor. His expertise and unwavering dedication have been a constant source of inspiration. We are also indebted to the team whose collective expertise and commitment have been pivotal in the conception and execution of the Sign Language Recognition System. Each member's contribution has been invaluable in bringing this project to fruition.

The Sign Language Recognition System stands as a testament to the collaborative spirit and collective determination to create meaningful solutions that empower individuals. To everyone who has played a role, whether large or small, in the journey of the Sign Language Recognition System, we offer our heartfelt appreciation. Your contributions have been instrumental in shaping the success of this project, and we are honored to have collaborated with such talented and passionate individuals.

Lastly, we extend our sincere thanks to the entire AKGEC family for their support in the completion of this project report. Your encouragement and assistance have been invaluable in achieving this milestone.



# Abstract

The Sign Language Recognition System represents a pioneering effort aimed at enhancing communication accessibility for individuals with hearing impairments. Leveraging advanced technologies such as Python, OpenCV, TensorFlow, and Keras, the project offers a comprehensive solution for real-time interpretation of sign language gestures. Through meticulous data preprocessing, machine learning model training, and deployment on various platforms, our project ensures accessibility and usability across diverse environments.

This project signifies a significant step towards inclusivity, empowering individuals with hearing impairments to communicate effectively and participate fully in various social and professional settings. By harnessing cutting-edge technologies and innovative approaches, this project underscores the importance of leveraging technology for the betterment of society and promoting inclusivity in communication.

In conclusion, the Sign Language Recognition System represents not only a technological achievement but also a beacon of hope for fostering greater understanding, empathy, and inclusion. As we continue to push the boundaries of innovation, may this project serve as a catalyst for positive change, inspiring future generations to harness the power of technology for the betterment of humanity.

# SIGN LANGUAGE & VOICE INTERPRETATION

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# Acknowledgements

We would like to express our deepest gratitude to everyone who has supported us throughout the completion of our final year project on "Sign Language & Voice Interpretation". First and foremost, We are sincerely thankful to our Mentor, Ms. Swati Tomar, for her invaluable guidance, constant encouragement, and insightful feedback, which have been instrumental in shaping this project. Their expertise and support have greatly enhanced our learning experience and the quality of our work.

We extend our heartfelt thanks to the faculty and staff of CSE department, who provided the necessary resources and a conducive environment for our research. We are also grateful to our fellow friends for their unwavering support and collaborative spirit, which made this journey enjoyable and enriching.

Special appreciation goes to our family for their unending love, patience, and encouragement. Their belief in our abilities has been a constant source of motivation.

Lastly, We acknowledge the contributions of the individuals and organizations that provided the data and tools necessary for the completion of this project. Their support has been crucial in bringing this project to fruition.

# Abstract

Sign Language & Voice Interpretation is a pioneering final year project aimed at enhancing communication accessibility for individuals with hearing impairments. Leveraging cutting-edge technologies such as Python, JavaScript, OpenCV, TensorFlow, and Keras, the project offers a comprehensive solution for real-time interpretation of sign language gestures and spoken language. Through the integration of convolutional neural networks (CNNs) for image processing and deep learning algorithms for voice recognition, the system enables seamless communication between users employing sign language and those using spoken language.

By pre-processing image and audio data, training machine learning models, and deploying them on web and mobile platforms, the project ensures accessibility and usability across diverse environments. "Sign Language & Voice Interpretation" represents a significant step towards inclusivity, empowering individuals with hearing impairments to communicate effectively and participate fully in various social and professional settings.

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# Chapter 1

## Introduction

### 1.1 Purpose of the Document

The purpose of this document is to provide a comprehensive overview of the Sign Language & Voice Interpretation Machine Learning project. It serves as a guide for project stakeholders, including developers, designers, project managers, and stakeholders, outlining the project's goals, methodologies, and key considerations. This document is a crucial reference for understanding the project's scope, objectives, and the strategies employed to achieve successful implementation.

### 1.2 Scope of the Project

#### Overview

The Sign Language & Voice Interpretation Machine Learning project aims to develop an innovative system capable of interpreting and translating both sign language and voice inputs. The scope encompasses the following key components:

The field of sign language and voice interpretation has garnered significant attention due to the critical need for effective communication tools for the deaf and hard-of-hearing community. This research project aims to develop a machine learning-based system that facilitates seamless interpretation between sign language and spoken language. By leveraging advances in artificial intelligence (AI) and natural language processing (NLP), this project seeks to bridge communication gaps and enhance the accessibility and inclusion of sign language users in various social, educational, and professional settings.

One of the primary purposes of this research is to enhance communication accessibility for individuals who rely on sign language. Sign language users often face barriers when interacting with the hearing pop-

ulation, especially in environments where sign language interpreters are not readily available. A machine learning-based interpretation system can serve as a real-time intermediary, converting spoken language into sign language and vice versa. This ensures that sign language users can participate more fully in conversations, access information in real-time, and interact without the constant need for human interpreters.

- **Sign Language Interpretation**

- Recognition of sign language gestures and expressions.
- Real-time interpretation and translation of sign language into textual or auditory outputs.
- User-friendly interface for sign language speakers and users.
- Gesture classification using deep learning techniques.
- Gesture segmentation and feature extraction algorithms.
- Integration with sign language dictionaries for accurate interpretation.

- **Voice Interpretation:**

- Speech recognition for voice inputs in multiple languages.
- Synthesis of human-like speech based on interpreted content.
- Integration of voice and sign language interpretations for a seamless communication experience.
- Noise reduction techniques for better speech recognition accuracy.
- Language model adaptation for different dialects and accents.
- Speaker diarization to identify multiple speakers in conversations.

- **Accessibility and Inclusivity:**

- Designing the system to be inclusive for individuals with hearing impairments.
- Providing a versatile tool for both sign language speakers and non-sign language speakers.
- Ensuring compatibility with various devices (e.g., smartphones, tablets, PCs).
- Incorporating feedback mechanisms for user customization.
- Adapting the user interface based on -----

- Support for gesture-based navigation for users with mobility impairments.

## 1.3 Objectives

### Key Goals

The objectives of the Sign Language & Voice Interpretation Machine Learning project are multifaceted, addressing technological innovation, accessibility, and user experience:

- **Accurate Interpretation**

- Develop machine learning models that accurately interpret and translate sign language gestures and voice inputs.
- Accurate interpretation is the cornerstone of this project.
- The aim is to leverage advanced machine learning algorithms to create models that can precisely recognize and interpret various sign language gestures.
- This includes distinguishing subtle differences in hand shapes, movements, and facial expressions that are essential components of sign language.
- Additionally, the system will translate spoken language into sign language and vice versa.
- This ensures seamless communication in both directions.

- **Real-Time Responsiveness**

- Achieve real-time responsiveness for both sign language and voice interpretation, ensuring a natural and instantaneous communication experience.
- Real-time processing is critical to facilitate natural conversations.
- The system should be capable of interpreting and responding to gestures and speech almost instantaneously.
- This involves optimizing the model for fast processing times without compromising accuracy.
- Real-time responsiveness will help in maintaining the flow of conversation, making interactions smoother and more engaging.

- **User Interface Design**

- Design an intuitive and user-friendly interface that accommodates both sign language speakers and non-sign language speakers, promoting inclusivity.
- A well-designed user interface (UI) is essential for accessibility and ease of use.
- The UI should be intuitive, allowing users to interact with the system effortlessly.
- This involves designing clear visual cues and controls for sign language users.
- Ensuring that the interface is equally accommodating to non-sign language speakers is crucial.
- Inclusive design principles will be applied to create a seamless experience for all users, regardless of their communication method.

- **Hardware Integration**

- Ensure seamless integration with various hardware components, such as cameras and microphones, for a versatile user experience.
- The success of this project depends heavily on the integration of reliable hardware components.
- High-quality cameras will be used to capture sign language gestures accurately.
- Sensitive microphones will pick up voice inputs clearly.
- Ensuring that these hardware components work seamlessly with the software will provide a robust and versatile user experience.
- Compatibility with various devices (e.g., smartphones, tablets, PCs) will also be a priority.

- **Data Security and Privacy**

- Implement robust data security measures to protect user information, ensuring compliance with privacy regulations.
- Data security and privacy are paramount in any application handling personal information.
- This project will implement stringent security protocols to protect user data from unauthorized access and breaches.
- Compliance with privacy regulations, such as GDPR or HIPAA, will be ensured.

- Users will be informed about how their data is used and will have control over their personal information.
- Secure data encryption, anonymization techniques, and regular security audits will be part of the security framework.

## **Conclusion**

This document sets the stage for the Sign Language & Voice Interpretation Machine Learning project, providing a clear understanding of its purpose, scope, and objectives. With a focus on innovation, and technological advancements, the project aims to create a communication tool that transcends language barriers and empowers individuals.



# AGROSENSE- Plant Disease detection and Crop Recommendation using ML and CNN

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# Declaration

We hereby declare that the work presented in this report entitled as the “AGROSENSE” was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. We have given due credit to the original authors/sources for all the words, ideas, diagrams, computer programs, experiments, and results that are not our original contribution. We have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

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We also take the opportunity to acknowledge the contribution of Dr. Anu Chaudhary, Head, Department of Computer Science and Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all faculty and staff members of the department for their kind assistance and cooperation during the development of our project.

# Abstract

AgroSense is an innovative agricultural technology aimed at revolutionizing farming practices by leveraging machine learning and data analytics. The project focuses on addressing two critical challenges faced by farmers: disease detection in crops and crop recommendation for optimal yield. The disease detection aspect of AgroSense utilizes image processing techniques and deep learning algorithms to analyze images of crops captured by smartphones or drones. By accurately identifying symptoms of diseases such as leaf spots, blights, and wilts, AgroSense provides timely and precise diagnosis, enabling farmers to take proactive measures to mitigate crop losses. In addition to disease detection, AgroSense incorporates a crop recommendation system based on soil analysis, weather conditions, and historical data. By analyzing various factors such as soil pH, moisture levels, temperature, and humidity, AgroSense suggests suitable crop varieties that are best suited to the specific conditions of the farm. This personalized recommendation ensures optimal yield and resource utilization while minimizing the risk of crop failure. AgroSense aims to empower farmers with actionable insights and recommendations, enabling them to make informed decisions and improve productivity. By harnessing the power of technology, AgroSense contributes to sustainable agriculture practices, food security, and the livelihoods of farmers worldwide.

# Smart Crop Recommendation for Modern Farming using Machine Learning

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# Votereum: A Blockchain-Powered E-Voting Platform For Secure Voting and Campaign Fundraising

A PROJECT REPORT

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**LUCKNOW**

May 23, 2024

  
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# Declaration

We hereby declare that the work presented in this report entitled **Votereum: A Blockchain-Powered E-Voting Platform for Secure Voting and Campaign Fundraising**, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

I affirm that no portion of my work is plagiarized, and the experiments and results reported in the report are not manipulated. In the event of a complaint of plagiarism and the manipulation of the experiments and results, I shall be fully responsible and answerable.

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# Certificate

This is to certify that the report entitled **Votereum: A Blockchain-Powered E-Voting Platform for Secure Voting and Campaign Fundraising** submitted by **Rahul Kumar Dubey, Prachi Tripathi, Ravi Kumar Gautam** and **Pratham Ruhela** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in ( Computer Science & Engineering) is a bonafide record of the project work carried out by him/her under my/our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

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# Abstract

Votereum represents pioneering endeavor in the realm of e-democracy, leveraging blockchain technology to ensure transparent and accountable electoral processes and fundraising initiatives. This abstract elucidates the integrated workflow of the platform, emphasizing its inherent transparency and verifiability through blockchain exploration.

**Voting and Fundraising Workflow:** Votereum harnesses the immutable ledger of blockchain technology to uphold the integrity of both voting and fundraising processes. Through a seamless user interface, administrators orchestrate elections and fundraising campaigns, deploying smart contracts on the blockchain to securely manage transactions and record pertinent data.

**Verification through Blockchain Explorer:** Integral to Votereum's commitment to transparency is the ability for stakeholders to verify transactions and allocations through blockchain exploration. By leveraging blockchain explorers, users can scrutinize the flow of funds and votes, ensuring that donations reach their intended recipients and that voting outcomes accurately reflect the collective will of participants. Votereum's utilization of blockchain exploration underscores its dedication to fostering trust and confidence in democratic processes and philanthropic endeavors. By providing stakeholders with the means to independently verify transactions, Votereum sets a new standard for transparency and accountability in digital governance and fundraising.



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# Chapter 1

## Introduction

In the digital age, the concept of electronic voting (E-voting) is rapidly gaining prominence as a means to make the democratic process more accessible, secure, and efficient. E-voting leverages blockchain technology to provide a robust foundation for secure and transparent elections. This project aims to explore the integration of blockchain into the electoral process, combining the key features of E-voting, fundraising for campaigning, and secure authentication. By merging these components, we endeavour to create a comprehensive, innovative, and trusted solution for the electoral ecosystem.

### 1.1 Purpose of the Document

The significance of this problem lies in the fundamental principles of a democratic society: ensuring free, fair, and secure elections. By introducing blockchain-based E-voting, we aim to restore public trust in the electoral process, enhance security, and create a more accessible and efficient means of participating in the democratic process. Additionally, integrating fundraising for campaigning ensures that campaigns are financially transparent, reducing the influence of undisclosed sources of funding.

### 1.2 Scope of the Project

The project aims to develop a comprehensive e-voting and fundraising system with the following scope:

### **1.2.1 Electronic Voting**

: Implement a secure and transparent electronic voting mechanism that allows eligible voters to cast their ballots from the comfort of their devices, ensuring the accuracy and integrity of the voting process.

### **1.2.2 Blockchain Integration**

: Integrate a blockchain to record and verify each vote, making the voting process immutable and transparent, thereby ensuring the authenticity of election results.

### **1.2.3 Fundraising for Campaigns**

: Enable political candidates and organisations to raise funds for their campaigns through the platform, providing contributors with a user-friendly interface for making donations while ensuring financial transparency through blockchain technology.

### **1.2.4 Authentication and Security**

: Implement robust authentication mechanisms to ensure the identity of voters and contributors, safeguarding the system from fraudulent activities.

### **1.2.5 User Management**

: Develop a user management system that allows voters to register and verify their eligibility, while also enabling candidates to create campaign profiles and manage fundraising efforts.

### **1.2.6 Campaign Management**

: Provide tools for candidates to manage campaign profiles, set fundraising goals, and track their progress. Additionally, enable users to explore and contribute to campaigns.

### **1.2.7 Transaction Security**

: Ensure secure financial transactions using blockchain technology, which offers transparency and traceability. Implement smart contracts for man-

aging and releasing funds to campaigns based on predefined criteria.

### **1.2.8 Real-time Updates**

: Display real-time election results and fundraising progress to keep users informed and engaged.

### **1.2.9 Audit Trail**

: Maintain an immutable audit trail of all actions taken on the platform, including votes, donations, and campaign updates.

## **1.3 Objectives**

- Develop an E-voting system that leverages blockchain technology to ensure secure and transparent voting.
- Implement an authentication system to prevent fake voting through scripts.
- Integrate campaign fundraising features into the E-voting platform, allowing candidates and organisations to raise funds transparently.
- Evaluate the security, usability, and legal compliance of the developed system.
- Analyse the impact of the project on enhancing the integrity of electoral processes and increasing public trust.

# Chapter 2

## Basics

### 2.1 Brief Description of the Project

The e-voting system using blockchain is a secure and transparent platform designed to facilitate electronic voting for various elections while also allowing fundraising for campaigning. The system leverages blockchain technology to ensure the integrity of the voting process and financial transactions. Additionally, robust authentication mechanisms are in place to verify the identity of voters and contributors.

### 2.2 Key Features

#### Key Features for Administrators:

#### 2.2.1 Election Management

: Administrators can create and manage elections, set voting rules, and oversee the entire electoral process.

#### 2.2.2 Vote Verification

: Administrators can audit the blockchain ledger to verify and validate voting results, ensuring the accuracy and integrity of elections.

#### 2.2.3 Campaign Oversight

: Election administrators can monitor campaign fundraising activities, review financial reports, and ensure compliance with campaign finance laws.

## **2.2.4 Security Controls**

: Administrators have access to comprehensive security controls to protect against fraudulent activities and data breaches.

## **2.2.5 Reporting and Auditing**

: The system generates detailed reports for election outcomes, campaign contributions, and financial transparency, facilitating regulatory compliance and audits.

## **Key Features for Voters:**

### **2.2.6 Voter Registration**

: Authentication of voter.

### **2.2.7 Secure Voting**

: Users can cast their votes securely through the platform, with the assurance that their choices are recorded on the blockchain.

### **2.2.8 Campaign Contribution**

: Donors can easily contribute funds to campaigns, with contributions transparently recorded on the blockchain.

### **2.2.9 Vote Verification**

: Voters can verify their votes and campaign contributions, ensuring data accuracy and transparency.

### **2.2.10 Real-Time Updates**

: Users receive real-time updates on campaign fundraising progress and election results, promoting engagement and transparency.

# AppliXpert : An Online Admission Management System

## A PROJECT REPORT

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We hereby declare that the work presented in this report entitled "**AppliXpert : An Online Admission Management System**", was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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It gives us the sense of pleasure to present the report of the B.Tech. Project undertaken during B.Tech. Final Year. We owe special debt of gratitude to **Mr. Manish Kumar** and **Mr. Akhilesh Verma**, Department of Computer Science & Engineering , Ajay Kumar Garg Engineering College, Ghaziabad for their constant support and guidance throughout the course of our work. Their sincerity, thoroughness and perseverance have been a constant source of inspiration for us. We are deeply indebted to our project team members and our guide for their unwavering commitment, expertise, and collaborative spirit throughout the development process.

We also take the opportunity to acknowledge the contribution of **Dr. Anu Chaudhary (HOD)**, Department of Computer Science & Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all faculty and staff members of the department for their kind assistance and cooperation during the development of our project. We are truly grateful for their contributions and commitment to improving the project further.

# Abstract

Institutions across the educational landscape are continually seeking innovative solutions to streamline their admission processes. The advent of digital technology has paved the way for online admission management portals, offering enhanced efficiency, accessibility, and user experience. This project delves into the development and implementation of such a portal, aimed at revolutionizing the admission procedure. The project focuses on addressing key challenges faced by both applicants and administrators in traditional admission systems. Through the utilization of modern web technologies and user-centered design principles, the portal offers a seamless and intuitive experience for applicants navigating through various admission stages. Features such as online application submission, document upload, fee payment, and status tracking empower applicants with greater control and transparency throughout the admission cycle.

Moreover, the portal provides administrators with robust tools for managing applications, generating reports, and communicating with applicants efficiently. Integration with existing student information systems ensures data integrity and simplifies the transition from traditional to online processes.

The project also highlights the benefits realized through the adoption of the online admission management portal, including accelerated processing times, reduced administrative burden, and increased applicant satisfaction. Overall, the online admission management portal represents a significant step towards modernizing and optimizing the admission process, aligning with the digital transformation trends in the educational sector. Its successful implementation signifies a commitment to innovation, efficiency, and accessibility in serving the needs of both applicants and institutions alike.

# **DermAID : A deep learning based skin Diagnose application**

## **A PROJECT REPORT**

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We hereby declare that the work presented in this report entitled ” **DermAID : A deep learning based skin Diagnose application** ”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University or Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, graphics, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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We also take the opportunity to acknowledge the contribution of **Dr. Anu Chaudhary (HOD)**, Department of Computer Science Engineering, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all faculty and staff members of the department for their kind assistance and cooperation during the development of our project.

# Abstract

The Global Burden of Disease Study has shown that skin diseases continue to be the 4th leading cause of nonfatal disease burden worldwide. Skin Diseases are occurring almost on all groups of ages among people. The rate of skin disease has been increased due to lifestyle and changing environments. They can often be the first sign of underlying systemic illnesses, making early detection crucial. These conditions often signal more severe systemic illnesses, including Cancerous one. They not only serve as indicators of underlying systemic illnesses, but also have a significant impact on patient's well-being, mental health, and social participation.

Subsequently, diagnosing skin diseases from clinical images is one of the foremost challenging tasks in medical image analysis. Moreover, when performed manually by medical experts, diagnosing skin diseases is time-intensive and subjective. As a result, both patients and dermatologists require automatic skin disease prediction, which makes the treatments plan faster.

Our mission is to provide affordable and accessible dermatological care to underserved and underprivileged regions by Develop a skin lesion classification system using deep learning and image processing tools techniques to assist dermatologists in diagnosing various(7) skin conditions. User can capture images and search for which skin disease it is, out of 7 disease classes.

The system is be able to accurately classify skin lesion images into 7 different categories, including melanoma(Cancerous), basal cell carcinoma, benign keratosis, and others. The model architecture is based on the **MobileNetV2** pre-trained model, fine-tuned for the specific classification task. The system should provide **top-2 predictions** along with their probabilities for each input image, helping dermatologists and patients make informed decisions about patient diagnosis and treatment.



# MEDDOCS - Blockchain-Based Medical Records Management System

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We hereby declare that the work presented in this report entitled "MED-DOCS - Blockchain-Based Medical Records Management System", was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma of any other University / Institute. I have given due credit to the original authors / sources for all the words, ideas, diagrams, computer programs, experiments, results, that are not my original contribution. I have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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We would like to thank everyone who contributed to the completion of this project report. Their support, guidance and encouragement throughout this endeavor has been invaluable.

Firstly, I would like to express my sincere thanks to my project mentor, **Mr. Manish Kumar**, for his unwavering support and valuable guidance. Their expertise, insightful feedback, and constructive criticism helped shape the direction and scope of this report.

I would like to thank my college, **Ajay Kumar Garg Engineering College, Ghaziabad** for providing the necessary resources, equipment and infrastructure for this project. With their support, our research activities progressed smoothly.

I would also like to thank my family and friends for their unwavering understanding, encouragement, and support throughout this journey. Their trust in us is a constant source of motivation.

Finally, we would like to express our deepest gratitude to everyone who contributed to this project in some way. Their support helped in the successful completion of this project.

# Abstract

In recent years, the integration of blockchain technology into the healthcare sector has garnered considerable interest and attention. One of the main areas of interest has been the use of blockchain to manage electronic health records (EHR) to solve numerous problems prevalent in traditional healthcare systems. This study seeks to offer a comprehensive overview of the emerging field of blockchain applications in the healthcare sector.

Through a detailed analysis of the project architecture, this report highlights the key components and functions of a blockchain-based system. It explores the role of smart contracts in automating data access authorization. The report goes on to discuss the potential benefits and challenges associated with the adoption of blockchain technology in healthcare data management. It explores how blockchain improves data integrity, supports interoperability between different systems, and enables patients to actively participate in their healthcare journey. In addition, scalability, privacy and regulatory compliance considerations are taken into account to provide a holistic view of the implementation process.

Drawing on insights from industry best practices and case studies, this report offers valuable recommendations for organizations and stakeholders interested in developing similar blockchain-enabled healthcare solutions. By adopting blockchain technology, healthcare providers can revolutionize patient care delivery, strengthen trust between stakeholders, and pave the way for a more efficient and patient-centric healthcare ecosystem.

# Campus Recruitment System Integrated With Predictive Intelligence

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# Acknowledgement

We would like to express our sincerest gratitude to all the people who have contributed towards the successful completion of our project. We would like to extend our heartfelt thanks to the Head of Computer Science & Engineering Department, **Dr. Anu Chaudhary**, and Professor Incharge, CSE, **Dr. Shashank Sahu** for nurturing a congenial yet competitive environment in the department, which motivates all the students to pursue higher goals. We want to express our special gratitude to our guide, **Ms. Neerja Arora** (Assistant Professor), Department of CSE, Ajay Kumar Garg Engineering College, for her constant support, guidance, encouragement, and much needed motivation. Her sincerity, thoroughness, and perseverance have been a constant source of inspiration for us. Last but not least, we would like to extend our thanks to all the teaching and non-teaching staff members of our department, and to all our colleagues who helped us in the completion of the project.

# Abstract

The Campus Recruitment System is being developed to efficiently manage and track interactions between companies and students, focusing on a specific subset of each group. This system facilitates the organization and retrieval of both personal and academic information for students and companies. Unlike traditional placement methods, which often suffer from issues such as incomplete information, security vulnerabilities, and the inefficiencies of manual processes, this technology offers a streamlined and secure placement management solution. The primary objective of the Campus Recruitment System is to address and mitigate these shortcomings, providing a robust alternative to conventional placement systems. Through the system's website, users can seamlessly register online, accessing features such as attendance records, term test scores, and more. Students can explore and apply to companies of their choice and receive timely updates regarding placement opportunities from the college's Training and Placement Officer (TPO). This approach ensures that students do not miss out on placement opportunities and significantly reduces the administrative burden on TPOs, as student information is automatically updated upon registration.

# Adhyatmik Yoga: AI-Powered Pose Estimation for Android

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We hereby declare that the work presented in this report entitled “ADHYATMIK YOGA”, was carried out by us. We have not submitted the matter embodied in this report for the award of any other degree or diploma from any other University or Institute. We have given due credit to the original authors/sources for all the words, ideas, diagrams, graphics, computer programs, experiments, and results, that are not my original contribution. We have used quotation marks to identify verbatim sentences and given credit to the original authors/sources.

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We extend our heartfelt gratitude to our guide, Ms. Bhumica Verma, for her invaluable assistance throughout this endeavor. Additionally, we express our appreciation to Ms. Swati Tomar and Dr. Santosh Kumar Upadhyay, esteemed members of our review committee, for their insightful advice and constructive critiques.

Moreover, we sincerely thank our parents for their unwavering support and our friends for their encouragement. Special recognition goes to Dr. Anu Chaudhary, our Head of Department, for his guidance and support.

# Abstract

Yoga is globally renowned for its profound health benefits, as advocated by ancient sages, and its enduring relevance remains evident today. Despite its growing popularity, yoga practitioners encounter significant challenges such as maintaining correct form, the high cost of classes, and time constraints in modern lifestyles. While computer vision techniques offer promising solutions for human pose estimation, their application in the realm of health and exercise, particularly in yoga, remains largely untapped, with scant literature or dedicated projects. This paper aims to explore various technologies suitable for pose estimation and determine the optimal method for integration into an Android application. Additionally, the methodology for implementing yoga pose estimation on Android platform is discussed, including the app's design and the functionality of each component.