PLAGIARISM DETECTION SOFTWARE USING MACHINE LEARNING

A PROJECT REPORT
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Bachelor of Technology in Computer Science and Engineering

to

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May 25, 2024

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We hereby declare that the work presented in this report entitled "ML based Plagiarism Detection Model", 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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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. Varun 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 also take the opportunity to acknowledge the contribution of **Dr. Anu Chaudhary (HOD-CSE), 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.

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Abstract

This report presents the development and evaluation of a machine learning-based model for detecting plagiarism. The primary objective of this project is to create an efficient and accurate system capable of identifying instances of plagiarism in textual documents. To achieve this, various machine learning algorithms, including natural language processing techniques, were employed to analyze and compare documents. The model was trained and tested using a dataset comprising both plagiarized and non-plagiarized texts, sourced from publicly available databases and academic repositories.The performance of the model was evaluated using standard metrics such as precision, recall, and F1-score. The results indicate that the model achieves a high level of accuracy in detecting plagiarism, outperforming traditional rule-based methods. Additionally, the system demonstrates robustness in handling paraphrased content and partial matches, which are common challenges in plagiarism detection.In conclusion, the developed machine learning-based plagiarism detection model shows significant promise for application in educational institutions and professional settings, providing a reliable tool for maintaining academic integrity and originality in written works. Future work will focus on refining the model and expanding its capabilities to cover a broader range of text types and sources.

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KRISHIKALYAN NETWORK

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In addition to the collective efforts of all team members, the success of this project segment hinges significantly on the encouragement and guidance provided by our esteemed teachers. We seize this opportunity to extend our heartfelt gratitude to those instructors who played pivotal roles in approving the project topic. I am particularly indebted to our esteemed Head of the Department, Dr. Shashank Sahu, for generously granting me access to the available facilities.

We wish to express our deepest appreciation to Ms. Neerja Arora and other faculty members. Their unwavering support and assistance have been invaluable to us. They consistently motivated and guided us in selecting the most suitable project topic. Without their encouragement and direction, our ability to pinpoint the appropriate topic would have been greatly hindered.

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Abstract

Develop a Platform with Crop Detection capable of real-time disease recognition Assess the impact of the disease detected on the crop. Investigate the effectiveness of disease detection in enhancing crop quality Provide a user-friendly and accessible platform for both farmers and consumers. The ultimate goal of a crop disease detection project is to mitigate the negative consequences of crop diseases on agriculture, the environment, and food security. By achieving these objectives, such projects can significantly enhance the sustainability and productivity of the agricultural sector while benefiting both farmers and consumers.

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Chapter 1

Introduction

1.1 An Introduction to Farmer Website

The farmer website is a dedicated platform designed to support the agricultural community by providing a comprehensive resource for crop management and expert consultation. The website features two primary sections: the Farmer Section and the Expert Section.

- Farmer Section: Farmers can upload images of their crops, enter data about their farming conditions, and access various tools for monitoring and improving their agricultural practices. The platform uses advanced machine learning algorithms to analyze the uploaded images, detecting any signs of disease or distress in the crops.

- Expert Section: Agricultural experts can review the uploaded crop images and data, provide diagnoses, and offer tailored advice to farmers. This section facilitates a collaborative environment where experts can share their knowledge and help farmers tackle specific issues.

The goal of the website is to bridge the gap between farmers and experts, fostering a supportive community that leverages technology to enhance agricultural productivity and sustainability.

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We express our sincere gratitude to all those who have contributed to the development of the E - Aushadhalaya project as our final year project. First and foremost, we extend our heartfelt thanks to the healthcare professionals, administrators, and staff members whose invaluable insights and feedback guided the conceptualization and refinement of the HMS platform. Their dedication to improving healthcare delivery has been in- strumental in shaping the features and functionalities of the system. We are deeply indebted to our project team members and our guide for their unwavering commitment, expertise, and collaborative spirit through- out the development process. Their tireless efforts, creativity, and problem- solving skills have been essential in overcoming challenges and achieving project milestones. We would like to acknowledge the support and encouragement received from our mentors whose guidance and encouragement have been a source of motivation and inspiration. Finally, we would like to thank our families, friends, and our college faculty for their patience, understanding, and encouragement during the course of this project. This project would not have been possible without the collective efforts and support of all those mentioned above. We are truly grateful for their contributions and commitment to improving healthcare management and patient care. Thank you.

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Abstract

In today's healthcare landscape, managing doctor appointments efficiently and effectively is a critical aspect of patient care. Patients often encounter challenges in scheduling, rescheduling, and managing their appointments, leading to disruptions in healthcare delivery and potentially impacting patient outcomes. Additionally, the growing interest in alternative medicine and holistic healthcare practices necessitates a system that accommodates both traditional and alternative healthcare providers. The E - Aushadhalaya project integrates various modules including patient registration, appointment scheduling, electronic health records (EHR), billing and invoicing, inventory management, and staff management. Each module is designed to streamline processes, reduce administrative burden, and enhance overall operational efficiency. The E-Aushadhalaya project leverages cutting-edge technologies such as React, Java, and Web applications to provide a user-friendly and scal- able solution. By centralizing hospital operations and fostering collaboration among stakeholders, the E-Aushadhalaya project aims to enhance the quality of patient care, improve healthcare outcomes, and drive operational excellence in healthcare institutions.

EVENT LABS(MANAGEMENT HUB)

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ABSTRACT

This project presents the design and implementation of an Event Management System (EMS), a robust platform that facilitates seamless communication and coordination between event organizers and workers. The EMS aims to streamline the process of organizing events by providing a centralized platform where organizers can efficiently manage their events and engage with a pool of qualified workers.

A key feature of our system is the integration of a geolocation-based worker selection mechanism. When an organizer requires workers for an event, the system identifies available workers within a 5-kilometer radius, ensuring timely and accessible support. Additionally, the EMS incorporates a rating system that allows organizers to select workers based on their performance and reliability, enhancing the quality of service provided.

The platform offers a user-friendly interface for both organizers and workers, featuring real-time notifications, scheduling tools, and a messaging system to facilitate effective communication. By leveraging these features, the EMS aims to reduce the logistical challenges associated with event management and improve the overall efficiency and satisfaction of both organizers and workers.

In conclusion, the Event Management System represents a significant advancement in the field of event coordination, offering a practical solution to common organizational hurdles through its innovative use of geolocation and rating-based worker selection.

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CROP YIELD PREDICTION SYSTEM

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Abstract

Agriculture is the main earnings-producing field as well as a cause of livelihood in India. Different biological variables and seasonal and financial factors affect yield growth, but unexpected variations in these variables result in a major loss of crops. When adequate mathematical or statistical techniques are applied to information related to soil, climate, and previous yield, these hazards can be quantified. With the advancement of machine learning, crop yields may be anticipated by extracting helpful information from crop fields that assist the government in deciding import/ export in advance. This study provides a machine-learning approach based on Random Forest Regression to predict crop yield with an R-square of 0.95. This agricultural yield prediction helps farmers to make plans for shortage/surplus of production in well advance to get significant benefits. This yield prediction model is a valuable tool for farmers, enabling them to plan for potential shortages or surpluses in production. It helps optimize farming practices, reduce waste, and maximize profits. Furthermore, it can assist government bodies in making informed decisions regarding agricultural policies, contributing to the stability and growth of the agricultural sector.

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Chapter 1

Introduction

1.1 Introduction

Prediction of crop yield is a crucial component in the management and development of a nation's food resources. Agriculture significantly influences both domestic and global Gross Domestic Product (GDP), with yield prediction playing a pivotal role in food procurement strategies. This is particularly pertinent in countries like India, where the economy predominantly relies on agricultural growth and its related agro-industrial products. Accurate pre-harvest yield predictions enable farmers to make informed decisions about future activities, which include planning, import/export formulation, price management, and crop procurement.

Effective yield prediction also provides valuable insights for agricultural policies and practices, guiding governmental and institutional efforts to support sustainable agricultural development. Traditional yield prediction methods, primarily dependent on historical data and climatic factors, have evolved with advancements in technology. Today, a variety of machine learning (ML) techniques are employed to enhance the accuracy and efficiency of these predictions.

1.2 Importance of Crop Yield Prediction

1. **Economic Impact**

   The agricultural sector's performance has direct implications for a

nation's economy. In countries like India, where agriculture forms the backbone of the economy, crop yield predictions are indispensable. High yield forecasts can boost farmer confidence, leading to better investment in farming activities and improved economic conditions for the rural population. Conversely, low yield predictions can prompt early interventions to mitigate potential losses, ensuring food security and stable market conditions.

2. **Agricultural Planning**

   Accurate yield predictions allow farmers to plan their activities more effectively. This includes deciding on the types of crops to plant, the amount of fertilizer to use, and the best times for planting and harvesting. Such planning helps optimize resource use, reduce waste, and improve overall productivity. For instance, if a low yield is predicted, farmers might choose to plant less water-intensive crops or adopt conservation techniques to mitigate the impact.

3. **Market and Price Management**

   Yield predictions[27] also play a critical role in market and price management. By anticipating supply levels, governments and market regulators can implement policies to stabilize prices, ensuring fair compensation for farmers and affordable prices for consumers. Predictive insights enable better management of food stocks and more informed decisions about imports and exports.

1.3   Factors Influencing Crop Yield

1. **Climatic Conditions**

   Climatic factors are among the most significant determinants of crop yield. Temperature, rainfall, humidity, and sunlight all play crucial roles in plant growth. Variations in these factors can lead to substantial differences in yield from year to year.

2. **Soil Characteristics**

   Soil properties, including texture, structure, nutrient content, and pH, directly affect plant health and productivity. Understanding soil conditions helps in selecting appropriate crops and determining the best agricultural practices.

3. **Water Availability**

   Water is essential for crop growth, and its availability often dictates the success of agricultural activities. In regions where agriculture relies heavily on rainwater, predicting rainfall patterns is critical for yield forecasting.

4. **Agricultural Practices**

   Crop rotation, fertilizer application, irrigation methods, and pest control strategies are all crucial components of agricultural practices that influence yield. Advances in agricultural techniques and the adoption of precision farming can significantly enhance productivity.

5. **Technological Interventions**

   Modern agriculture increasingly relies on technological interventions such as remote sensing, machine learning, and data analytics. These technologies facilitate the collection and analysis of vast amounts of data, leading to more accurate yield predictions.

1.4   Challenges and Future Directions

1. **Data Quality and Availability**

   One of the main challenges in using ML for yield prediction is the availability and quality of data. High-quality, comprehensive datasets are essential for training accurate models. Efforts to improve data collection methods and integrate various data sources will enhance model performance.

2. **Model Interpretability**

   While advanced ML models like deep learning offer high accuracy, their complexity often makes them difficult to interpret. Developing more interpretable models without compromising accuracy is a key area of research.

3. **Climate Change**

   Climate change introduces additional variability in agricultural data, making yield prediction more challenging. ML models need to account for these changes and adapt accordingly to maintain accuracy.

4. **Integration with Traditional Methods**

   Integrating ML techniques with traditional agricultural practices can provide a more holistic approach to yield prediction. Combining expert knowledge with data-driven insights can lead to better decision-making and improved outcomes.

5. **Policy Implications**

   The adoption of ML[26] in agriculture has significant policy implications. Governments and institutions need to create supportive frameworks for technology adoption, including funding for research and development, training programs for farmers, and infrastructure development.

1.5 Conclusion

The prediction of crop yield is an essential aspect of agricultural management, with far-reaching implications for economic stability, food security, and sustainable development. The integration of machine learning techniques in yield prediction offers promising

Chapter 2

Background of Crop Yield Prediction System

2.1   Existing Approaches

Agricultural yield prediction is essential for planning policies, ensuring the availability of food, and making agricultural decisions. Crop production estimates have been more accurate and dependable in recent years because of the use of methods based on machine learning (ML), especially the Random Forest algorithm. In this study, we have reviewed several methods of agricultural yield prediction based on Decision Tree and Random Forest machine learning algorithms. This section presents a review in two subsections: Decision Tree algorithm-based methods and Random Forest algorithm-based methods.

1. **Decision Tree Algorithm-based Methods**

    This subsection describes various crop yield forecasting methods based on the Decision Tree algorithm.

    - Veenadhari et al. [19] presented a model for Soybean Productivity using Decision Tree Algorithms. The current research is focused on a decision tree to evaluate the impact of climatic variables on the output of soybean crops. The Interactive Dichotomizer 3 (ID3) decision tree algorithm was used to specify the most affecting climatic parameter on soybean production in

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Acknowledgements

We would like to express our heartfelt gratitude to all those who contributed to the completion of the project **"FITMANTRA-An Android Application for Fitness "** and the preparation of this report. First and foremost, we extend our deepest appreciation to our mentor, **Mr.Amit Kumar (Assistant Professor)** for his unwavering support and trust throughout the duration of this project. His guidance and insight were invaluable in shaping the direction of our work.

We are also immensely grateful to the entire project team for their dedication, hard work, and collaborative spirit. Each member brought unique expertise and perspectives to the table, contributing to the success of this endeavor. Furthermore, we would like to thank our colleagues who provided valuable feedback and input at various stages of the project. Their insights enriched our understanding and helped us refine our approach.

Last but not least, we acknowledge the support of our families and friends, whose encouragement sustained us during challenging times. This project would not have been possible without the collective efforts of everyone involved, and for that, we are truly grateful.

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Abstract

This project presents a cutting-edge fitness app, "FITMANTRA - An Android Application for Fitness" ,that leverages modern technologies to significantly enhance user experience and engagement in tracking individual fitness levels. The COVID-19 pandemic profoundly impacted all aspects of life, with one of the most adverse effects being on health and fitness.[2] During the pandemic, many people turned to home workouts, often performing exercises or yoga poses improperly, which can lead to fatigue and injury. Consequently, having a professional trainer present is crucial for ensuring correct form and preventing harm. However, not everyone has the resources to hire a personal trainer or guide. Despite extensive research and development in computer vision and artificial intelligence, accurately estimating human body posture remains a challenging task. Artificial intelligence can bridge this gap by providing pose guidance to those unable to access professional training. Current research on pose estimation for yoga and exercise primarily focuses on categorizing various workout poses. This project aims to advance these efforts by integrating TensorFlow PoseNet, a state-of-the-art real-time pose estimation algorithm, into our fitness app. By utilizing TensorFlow PoseNet, users can receive immediate feedback on their posture, allowing them to correct any issues in real-time. This real-time feedback mechanism ensures that users perform exercises correctly, thereby minimizing the risk of injury and maximizing the effectiveness of their workouts. Furthermore, the app's user-friendly interface and engaging features are designed to motivate users to maintain regular exercise routines, ultimately promoting better health and fitness outcomes. In addition to posture correction, the app offers a comprehensive suite of features, including personalized workout plans, progress tracking, and virtual coaching. These features collectively enhance the user experience, making fitness routines more accessible and enjoyable. By combining advanced pose estimation technology with an intuitive and interactive platform, this fitness app represents a significant innovation in the realm of digital health and fitness solutions. The core

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Proximity Shop Network (Local Link Marketplace)

PROJECT REPORT

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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. Amit 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.

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Abstract

The E Kirana Plus is an innovative webbased platform designed to simplify the process of buying and selling groceries online. This system aims to revolutionize the traditional grocery shopping experience by providing a convenient and efficient marketplace for both customers and vendors. The system enables multiple grocery vendors to register and showcase their products on a centralized platform. Customers can browse through a wide range of grocery items, compare prices, and make purchases from different vendors in a single transaction. The system incorporates various features to enhance the user experience, including advanced search functionality, personalized recommendations, secure payment processing, and order tracking. For vendors, the system offers a comprehensive dashboard to manage inventory, update product information, and track orders. Vendors can efficiently handle their online storefronts, process customer inquiries, and receive timely notifications for new orders. The system provides a seamless communication channel between vendors and customers, ensuring smooth transactions and fostering trust. The successful implementation of the Multivendor Online Grocery Management System will lead to numerous benefits. Customers will experience the convenience of shopping for groceries from the comfort of their homes, saving time and effort. Vendors will gain access to a wider customer base, allowing them to expand their business reach and increase sales. The system promotes healthy competition among vendors.

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COLOC: The Complete Off-Campus Accommodation Solution

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Firstly, We would like to express our sincere thanks to our project mentor, **Ms. Bhumica Verma**, for her unwavering support and valuable guidance. Their expertise, insightful feedback, and constructive criticism helped shape the direction and scope of this report.

We would like to thank our 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.

We would also like to thank our 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.

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Abstract

In recent years, the development of innovative digital platforms aimed at simplifying the search for accommodation has gained significant momentum, particularly within the student community. One of the key areas of focus has been the creation of platforms that facilitate finding flatmates and flats near university campuses, addressing numerous challenges inherent in traditional methods. This study provides a comprehensive overview of a novel platform designed to enhance the student accommodation search experience through a swipe-based matching system.

The report begins with a thorough exploration of the platform's underlying concepts and functionalities, including an explanation of the swipe-based interface and its integration with advanced search algorithms. By presenting a detailed background on the platform's core features, such as user profile creation, flat listing processes, and matching logic, the report establishes a foundation for understanding how these elements work together to provide a seamless user experience. The primary objective of the project is to offer a secure, user-friendly environment where students can effortlessly find compatible flatmates and suitable flats, thereby streamlining the accommodation search process.

Through an in-depth analysis of the platform's architecture, this report elucidates the key components and operational mechanisms that drive the system. It examines the criteria and algorithms used for matching users with potential flatmates and flats, highlighting the efficiency and optimization strategies employed. The report also discusses the various features designed to boost user engagement, including gamification elements, social features, and notification systems. Furthermore, it addresses critical aspects of security and privacy, ensuring that user data is protected in compliance with relevant regulations.

The study explores the benefits and challenges associated with implementing such a platform, including improved user experience, enhanced data security, and increased accessibility. Drawing from industry best practices and case studies, the report offers practical recommendations for developers and stakeholders aiming to create similar student accommodation platforms. By leveraging innovative matching technologies, the platform seeks to transform the student accommodation search landscape, fostering a more efficient and user-centric approach.

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Chapter 1

Introduction

1.1 Introduction

Coloc is designed to assist students in finding off-campus accommodations by leveraging modern technologies and user-friendly interfaces. This system combines traditional property listings with a swipe-based matching feature similar to popular dating apps, enhancing user experience and engagement.

1.1.1 An Introduction to the Platform
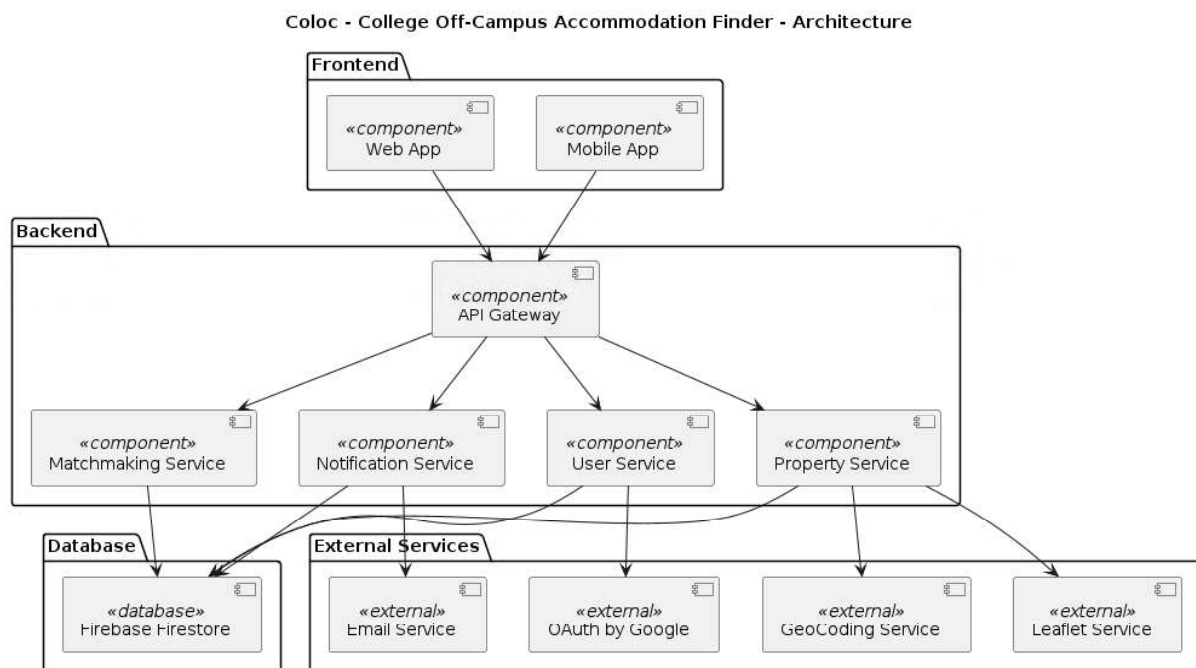
Figure 1.1: High Level Architecture of Coloc

Coloc is an innovative digital [] platform designed to facilitate the search for off-campus accommodation for college students. The platform aims to simplify the often daunting task of finding suitable housing by offering a seamless and user-friendly experience. Coloc integrates traditional property listing functionalities with a modern swipe-based matching system, similar to popular dating apps like Tinder. This unique combination

enhances user engagement and makes the process more interactive and enjoyable. As shown in Figure 1.1, the high-level architecture of Coloc illustrates the system's components and how they interact with each other.

The platform is available both as a web application and a mobile app, ensuring accessibility and convenience for users. Coloc leverages advanced technologies to provide personalized property recommendations based on user preferences and behavior. Additionally, the platform incorporates various external services such as geocoding, interactive maps, and email notifications to offer a comprehensive and robust solution for students seeking off-campus housing.

1.1.2 Background

The traditional process of finding off-campus accommodation can be overwhelming for college students. Typically, students have to sift through multiple property listings on various websites, contact landlords, schedule viewings, and compare options manually. This process is not only time-consuming but also inefficient, often leading to missed opportunities and suboptimal housing choices.

With the rise of mobile technology and the increasing popularity of user-friendly applications, there is a significant opportunity to streamline this process. Platforms that integrate advanced search algorithms, real-time data, and user preferences can greatly enhance the efficiency and effectiveness of the accommodation search process. Coloc was conceived to address these challenges by providing a centralized platform that leverages modern technology to simplify and improve the housing search experience for students.

Moreover, Coloc acts as a bridge between seniors who are vacating their flats and juniors who are seeking accommodation. This direct connection helps to bypass brokers and avoid the hidden charges often associated with renting through intermediaries, making the process more cost-effective and transparent for students.

1.1.3 Project Objectives

The primary objectives of the Coloc project are as follows:

- **User-Friendly Platform**: To develop an intuitive and easy-to-use platform that simplifies the process of searching for off-campus accommodation. The interface should be clean, responsive, and accessible across various devices.

- **Swipe-Based Matching**: To integrate a swipe-based matching feature that allows users to quickly browse through property listings and indicate their interest or disinterest. This feature is designed to make the search process more engaging and efficient.

- **Personalized Recommendations**: To provide personalized property recommendations based on user preferences, search history, and behavior. The recommendation system should leverage advanced algorithms to match users with properties that best meet their needs.

- **Scalability and Reliability**: To ensure the platform is scalable and reliable, capable of handling a large number of users and property listings without performance degradation. The backend architecture should be robust and resilient.

- **Comprehensive Integration**: To incorporate essential external services such as geocoding for address conversion, interactive maps for property locations, and email notifications for updates and alerts. These integrations should enhance the overall functionality and user experience.

- **Data Management and Security**: To use Firebase Firestore for efficient data management and storage. Ensuring the security and privacy of user data is paramount, and the platform should adhere to best practices in data protection.

- **Cost-Effective Solutions**: To reduce the financial burden on students by eliminating the need for brokers and avoiding hidden charges associated with traditional renting processes. By directly connecting seniors vacating their flats with juniors seeking accommodation, Coloc ensures a more economical and transparent housing search experience.

1.1.4 Project Significance

The significance of the Coloc project lies in its potential to transform the way students search for off-campus accommodation. By addressing the limitations and challenges of traditional housing search methods, Coloc offers a more efficient, engaging, and personalized solution.

- **Time Savings**: By streamlining the search process and providing personalized recommendations, Coloc significantly reduces the time

students spend looking for housing. The swipe-based matching feature allows users to quickly sift through listings, making the process faster and more enjoyable.

- **Enhanced User Experience**: The platform's user-friendly interface and interactive features improve the overall user experience. Students can easily browse listings, view property details, and contact landlords through a single platform.

- **Increased Engagement**: The swipe-based matching system keeps users engaged and motivated to continue their search. This gamified approach not only makes the process fun but also increases the likelihood of students finding a suitable match.

- **Comprehensive Solution**: By integrating external services like geocoding, interactive maps, and email notifications, Coloc offers a comprehensive solution that addresses various aspects of the accommodation search process. Users can view property locations on maps, receive updates about new listings, and manage their search all in one place.

- **Scalability**: The scalable architecture of Coloc ensures that the platform can handle increasing numbers of users and listings without compromising performance. This makes it a reliable tool for students in different regions and with varying needs.

- **Security and Privacy**: With a focus on data security and privacy, Coloc ensures that user information is protected. The use of Firebase Firestore for data management provides a secure and efficient way to store and retrieve data, giving users peace of mind.

- **Cost Efficiency**: One of the most significant benefits of Coloc is its ability to connect students directly, avoiding the need for brokers and the associated hidden charges. By facilitating direct communication between seniors vacating their flats and juniors seeking accommodation, Coloc provides a cost-effective and transparent solution, which is especially beneficial for students on a budget.

In summary, Coloc stands out as a significant project due to its innovative approach to solving the common problems associated with finding off-campus accommodation. By leveraging modern technology and focusing on user needs, Coloc has the potential to become an essential tool for college students worldwide.

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Chapter 2

Basics

2.1 Overview of the Off-Campus Accommodation Platform

The off-campus accommodation platform is a modern digital solution designed to simplify and streamline the process of finding suitable accommodation and flatmates for students. By providing a centralized platform, it offers a convenient and efficient way for students to search for available accommodations, connect with potential flatmates, and make informed decisions about their living arrangements. The platform utilizes cutting-edge technologies, such as matchmaking algorithms and secure communication features, to enhance the user experience and ensure a seamless accommodation search process.

2.2 Understanding the Platform

The platform comprises several key components that work together to provide a comprehensive accommodation search experience. The user interface serves as the primary point of interaction for users, allowing them to perform various functions. The matchmaking algorithm plays a crucial role in the platform, analyzing user preferences and suggesting compatible flatmates and accommodations. The database stores user profiles, accommodation listings, and matchmaking data, ensuring that the platform operates efficiently and provides accurate recommendations. The communication features enable users to interact securely, facilitating the process of finding suitable accommodation and flatmates. As shown in Figure 2.1, the use case diagram of Coloc illustrates the interactions between users and the system's components, highlighting the key functionalities of the platform.

GOLD RATE PREDICTION USING ML

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Abstract

Gold is a valuable commodity with a fluctuating market price influenced by various economic, geopolitical, and social factors. Predicting gold prices accurately is essential for investors, traders, and policymakers to make informed decisions. This project aims to develop a machine learning model for predicting gold rates based on historical data and relevant features. The project involves data collection from reliable sources such as fi nancial databases and market indices spanning several years. Feature en gineering techniques are applied to extract meaningful information such as market trends, inflation rates, currency values, and geopolitical events that impact gold prices. Various machine learning algorithms including linear regression, decision trees, random forests, and neural networks are implemented and evaluated for their predictive performance. The model's accuracy and reliability are validated using cross-validation techniques and appropriate performance metrics such as Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), and R-squared (R2) score. Additionally, the model's robustness is tested against unseen data to ensure its generalizability. The outcomes of this project include a trained machine learning model capable of predicting future gold rates with reasonable accuracy, aiding stakeholders in making data-driven decisions in the gold market. Insights gained from the model's predictions can also contribute to understanding the dynamics and factors influencing gold prices over time.

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Cardiovascular Risk Assessment using ML

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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.

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ABSTRACT

The prevalence of cardiovascular diseases remains a major global health concern, finding innovative approaches for early detection, diagnosis, and preventive health management.

This project introduces an integrated system comprising predictive analytics for heart diseases, a diagnostic module for identifying specific conditions.

The system utilizes machine learning algorithms to analyse health data, assess the risk of heart diseases, and provide timely insights for preventive measures.

This project focuses on developing the Cardiovascular disease detection based on the patient health factors which will advise the patient based on their heart disease condition. The system features an intelligent and user-friendly GUI implemented using Machine learning, boosting algorithms and the Flask framework. Various machine learning algorithms such as Random Forest (RF), K-Nearest Neighbour (KNN), Logistic Regression (LR) and Artificial Neural Network (ANN) used for heart disease classification and the results were discussed.

The proposed project aims to develop and implement an AI-driven Cardiovascular disease detection system. This system, potentially address the following key objectives such as Early detection, Continuous monitoring, User-Friendly Interface.

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Plastic Waste Management System (EcoPlast)

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Declaration

We hereby declare that the work presented in this report entitled "Plastic Waste 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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This is to certify that the report entitled **Plastic Waste Management System (EcoPlast)** submitted by **Yash Vardhan (2000270100195), Sanchay Chauhan (2000270100133), Vinit Pundeer (2000270100185)** and **Rishabh Kumar Mishra(2000270400072)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (stream & branch) 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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Acknowledgements

I would like to express my sincere gratitude to everyone who has contributed to the successful completion of this report on the Plastic Waste Management System.

First and foremost, I extend my deepest appreciation to Computer Science and Engineering department for their invaluable guidance, support, and encouragement throughout the course of this project. Their expertise and insights have been instrumental in shaping the direction and depth of this report.

I am profoundly grateful to my colleagues and team members for their dedication, hard work, and collaboration. Their efforts in data collection, analysis, and strategy development have been crucial to the successful completion of this project.

I also wish to acknowledge the academic community, including my mentors and professors, whose teachings and guidance have laid the foundation for this work. Their support has been invaluable in navigating the complexities of plastic waste management.

Additionally, I am thankful to my family and friends for their unwavering support, patience, and encouragement. Their belief in me has been a constant source of motivation and strength throughout this project.

Lastly, I would like to extend my gratitude to all individuals and organizations, both mentioned and unmentioned, whose contributions, directly or indirectly, have been vital to the successful completion of this report.

Director
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Abstract

Plastic waste has emerged as a critical environmental issue, posing severe threats to ecosystems and human health. The *Plastic Waste Management System* project aims to tackle this challenge by developing an integrated and sustainable solution for managing plastic waste. This system is designed to encompass the entire lifecycle of plastic materials, emphasizing the key strategies of reduction, reuse, and recycling.

In addition, the project explores innovative methods for plastic waste reduction, including the development and promotion of biodegradable plastics and alternative eco-friendly materials. A crucial component of our system is the engagement of communities through educational programs and incentivized recycling initiatives, fostering a culture of environmental responsibility.

Collaboration with local authorities, industry stakeholders, and non-profit organizations is pivotal to the success of this initiative, ensuring a coordinated and effective approach to plastic waste management. The anticipated outcomes of the *Plastic Waste Management System* include a marked decrease in plastic waste accumulation, enhanced recycling rates, and the establishment of sustainable waste management practices.

Ultimately, this project aspires to contribute significantly to global efforts in combating plastic pollution, advancing towards a circular economy, and safeguarding the environment for future generations

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AUTOMATED ATTENDANCE SYSTEM USING FACE RECOGNITION

A PROJECT REPORT
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We hereby declare that the work presented in this report entitled "AUTOMATED ATTENDANCE SYSTEM USING FACE RECOGNITION", 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 our original contribution. We have used quotation marks to identify verbatim sentences and given credit to the original authors / sources.

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ACKNOWLEDGMENTS

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, **Ms. Harnit Saini**, 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.

We also extend my thanks to all the faculty of Computer Science and Engineering who directly or indirectly encouraged me.

Finally, We would like to thank our parents and friends for all their moral support they have given us during the completion of this work.

Director
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Ghaziabad

ABSTRACT

The Automated Attendance System Using Face Recognition is a practical solution designed to address the everyday challenges of managing student attendance. This system leverages advanced facial recognition technology to streamline and automate the attendance-taking process in educational institutions. Utilizing high-definition video monitoring and sophisticated information technology, the system identifies and verifies student faces to record attendance accurately.

In our face recognition project, the computer system is engineered to detect and recognize human faces swiftly and accurately in images or videos captured by surveillance cameras. The core functionality involves capturing live video footage, processing the frames to detect faces, and then recognizing these faces against a pre-existing database of student images.

Face recognition-based attendance operates by identifying unique facial features of each student. When a student's face is detected in the video feed, the system uses these unique features to verify the student's identity and mark their attendance in the database automatically. This approach eliminates the need for manual attendance marking, reducing errors and saving valuable classroom time.

The project employs the Local Binary Patterns Histograms (LBPH) algorithm, a robust method known for its effectiveness in facial recognition tasks. LBPH works by converting video frames into images, analyzing the textures and patterns of each face. It then creates histograms that represent these patterns and compares them to stored histograms in the database to identify students accurately.

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AUDIO SENTIMENT ANALYSER FOR MENTAL HEALTH SUPPORT HOTLINE

A PROJECT REPORT
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Acknowledgements

We extend our heartfelt gratitude to our guide, Dr.Akhilesh Verma , for his invaluable assistance throughout this endeavor. Additionally, we express our appreciation to Ms. Bhumica Verma and Mr. Varun Kumar, 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 Mr.Anu Chaudhary, our Head of Department, for his guidance and support.

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 healthcare 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.

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Abstract

The integration of emotion detection technology into mental health helplines is gaining traction to enhance care quality. This study aims to improve the effectiveness of these services by incorporating contemporary machine learning and natural language processing techniques. The paradigm centers on the application of Long Short-Term Memory (LSTM) networks, renowned for processing sequential data, such as speech. By harnessing LSTM models, we aim to identify a broad spectrum of emotional states and assist in early detection of mental health issues. Our findings indicate a significant potential for integrating emotion detection into hotline operations. We observe improved accuracy, precision, and recall rates, demonstrating the model's capacity to reliably categorize emotions like happiness, sadness, anger, and surprise. Notably, the model's accuracy reached 90.14and validation, highlighting its robustness. The research also delves into the challenges faced by hotline operators, ethical considerations, and practical implementation. Privacy, user consent, and cultural sensitivity are key elements underscored throughout the study. Overall, the results highlight the need for continuous training, validation, and cultural adaptability for operators. Future advancements focus on real-time integration, multimodal recognition, and longitudinal studies, promoting technology that harmoniously blends with compassionate care.

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Anti-Counterfeit Product Identification System

A PROJECT REPORT
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We hereby declare that the work presented in this report entitled "Anti-Counterfeit Product Identification 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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Contents

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Image Captioning using VGG-16 Deep Learning Model

A PROJECT REPORT

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We are profoundly grateful to Ajay Kumar Garg Engineering College for providing this wonderful opportunity and the conducive environment necessary for undertaking this research project. The institution's commitment to fostering research and innovation has been instrumental in bringing this project to fruition.

We would like to extend our deepest gratitude to our guide, **Mr. Vishal Jayaswal**(Assistant Professor - CSE Department), whose insightful guidance and unwavering support have been pivotal throughout the course of this research. His expertise in the field and his encouragement have greatly enriched this work.

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Finally, we are grateful to our families and friends for their constant encouragement and understanding during the course of this research. Their support has been a source of strength and motivation. This research would not have been possible without the collective efforts and support of all these individuals and institutions. Thank you for your invaluable contributions.

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Abstract

Image captioning is a method that creates captions from images. It makes use of computer vision, natural language processing, and deep learning. The field of image captioning has evolved significantly in recent times, thanks to the application of both conventional and sophisticated deep learning approaches. This study uses two well-known benchmark datasets, Flickr8k and Flickr30k, to examine the use of the VGG-16 convolutional neural network (CNN) for producing descriptive captions. A recurrent neural network (RNN) is integrated to generate coherent and contextually relevant captions after the VGG-16 model is utilized for feature extraction. Human-provided references and generated captions are compared for quality using standard assessment metrics such as BLEU. The findings have applications in the areas of content indexing, assistive technology for the visually impaired, and enhancing user interfaces on image-centric systems. The comparison of the Flickr8k and Flickr30k datasets sheds light on the challenges posed by the different datasets and provides guidance for future image captioning research. A list of references, a synopsis of the key findings, and suggestions for future research topics are included in the paper's conclusion.

CrowdFunding Using Blockchain

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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**, 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. Mahima Saxena(Assistant Professor)**, Department of Information Technology, Ajay Kumar Garg Engineering College, Ghaziabad for his constant support, guidance, encouragement and much-needed motivation. His 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.

Director
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Abstract

Crowdfunding revolutionized how individuals and organizations get money for their activities. This new approach to fundraising enables businesspersons and NGOs to access an international community of potential sponsors or contributors. It has grown enormously over the years. It's a way of getting capital cheaply, which widens the scope for ideas and businesses, lowers the investment risk, and provides more appropriate financing options for many different types of projects. It offers an alternative method of funding compared to traditional borrowing. Crowdfunding is available to any person or entity, as a rule. As an increasingly popular investment and fundraising channel, investors as well as companies are exposed to new opportunities and risks. The goal of this project is to deliver much knowledge and a better understanding of crowdfunding among young would be entrepreneurs as an option for funding, thus talking about its main features along with perceived benefits and barriers that may lead young entrepreneurs to put up projects on a crowdfunding site.

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FACIAL RECOGNITION VOTING SYSTEM

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We hereby declare that the work presented in this report entitled "Facial Recognition Voting 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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We would like to extend our heartfelt gratitude to all those who have contributed to the development and implementation of the Facial Recognition Online Voting System.

First and foremost, we express our sincere appreciation to Ajay Kumar Garg Engineering College for their support and encouragement throughout this project. Their vision and commitment to innovation have been instrumental in bringing this system to fruition.

We are immensely grateful to our team of dedicated developers, designers, and engineers who have worked tirelessly to create a robust and user-friendly platform. Their expertise, creativity, and attention to detail have been invaluable in overcoming numerous challenges and ensuring the success of the project.

We would also like to thank the individuals and organizations who provided valuable feedback and input during the testing phase. Your insights have helped us refine the system and improve its functionality.

Last but not least, we acknowledge the trust and confidence placed in us by the users of the Facial Recognition Online Voting System. Your participation and engagement are essential in shaping the future of democratic processes.

Thank you to everyone involved for your unwavering support and commitment to advancing technology for the betterment of society.

Director
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Abstract

The Facial Recognition Voting System (FRVS) presented in this report is an innovative solution designed to enhance the security, integrity, and efficiency of the voting process. Leveraging advancements in facial recognition technology, the system provides a reliable means of authenticating voters before they cast their ballots. The core of the system lies in the integration of the Multi-task Convolutional Neural Network (MtCNN) model, which efficiently detects and aligns faces in images captured by the system. Through a user-friendly interface, voters are guided through the process of capturing their photo and casting their vote, ensuring a seamless experience.

The use of facial recognition for authentication mitigates the risk of fraudulent voting, thereby bolstering the credibility of election outcomes. Stringent data privacy measures are implemented to safeguard the confidentiality of voters' facial data, including encryption of data transmission and anonymization of stored data. The scalability of the system is ensured, making it suitable for deployment in various election scenarios. The Facial Recognition Voting System (FRVS) represents a significant advancement in voting technology, offering a robust and secure solution to modernize electoral processes while upholding democratic principles.

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Multiple Disease Prediction System

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

to

Department of Computer Science & Engineering
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DR. APJ ABDUL KALAM TECHNICAL UNIVERSITY,
LUCKNOW**

May 24, 2024

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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.

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

Certified that **Yash Shekhar** (2000270100194), **Shivam Singh** (2000270100149), **Viveka Kushwaha** (2000270100191), **Udit Bansal** (2000270100170) has carried out the Project / Research entitled **"Multiple Disease Prediction System"** for the award of **Bachelor Of Technology** from DR.APJ ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW under my supervision. The project / research embodies results of original work, and studies are carried out by the students himself and the contents of the work do not form the basis for the award of any other degree to the candidate or to anybody else from this or any other University/Institution.

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Place: Ghaziabad
Date: 19/05/2024

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to my project supervisor, **Dr. Akhilesh Verma**, 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, **Yash Shekhar, Shivam singh,Viveka Kushwaha,Udit Bansal** 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.

Director
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ABSTRACT

The "Multiple Disease Prediction System" also integrates a comprehensive database that continually updates to reflect the latest medical research and trends, ensuring the most current information is utilized in the prediction process. This dynamic system supports various machine learning algorithms, including decision trees, support vector machines, and neural networks, allowing users to choose the model they are most comfortable with or which they believe to be most effective for their needs.

Additionally, the platform offers a user-friendly interface that guides users through each step of the process, from symptom input to prediction results, with clear instructions and helpful prompts. The design prioritizes accessibility, featuring support for multiple languages and ensuring compatibility with various devices, including smartphones and tablets.

Privacy and security are paramount, with robust measures in place to protect users' personal health data. The system adheres to strict data protection regulations, guaranteeing that users' information remains confidential and secure.

The "Multiple Disease Prediction System" represents a significant advancement in digital healthcare, leveraging cutting-edge technology to democratize access to early disease detection. By providing timely and accurate predictions, the system empowers individuals to seek appropriate medical care promptly, potentially improving outcomes and saving lives. Our commitment to maintaining a free and accessible platform underscores our dedication to public health and our belief in the transformative power of technology in healthcare.

Director
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Fire and Smoke Detection Using Machine Learning

A PROJECT REPORT
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Declaration

We hereby declare that the work presented in this report entitled "**Fire And Smoke Detection Using Machine Learning**", 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

First and foremost, we express our sincere appreciation to **Ajay Kumar Garg Engineering College** for their support and encouragement throughout this project. Their vision and commitment to innovation have been instrumental in bringing this system to fruition.

We are deeply thankful to our guide, Professor **Dr. Shashank Sahu**, whose expert guidance and mentorship have been pivotal in steering this project to success. Additionally, we extend our gratitude to the Head of Department, Professor **Dr. Anu Chaudhary**, for their unwavering support and belief in the potential of our work.

We would also like to thank the individuals and organizations who provided valuable feedback and input during the testing phase. Your insights have helped us refine the system and improve its functionality.

Last but not least, we acknowledge the trust and confidence placed in us by the users of the Fire and Smoke Detection System. Your participation and engagement are essential in shaping the future of safety technologies. We are also grateful to our parents for their unwavering support and encouragement throughout this journey.

Thank you to everyone involved for your unwavering support and commitment to advancing technology for the betterment of society.

Shivam Pandey

Vipin Kumar Maurya

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Abstract

The fire and   Smoke Detection System presented in   this   report is
an innovative solution designed so accurately detect fires and smoke and
minimize false alarms and detect fires in their early stages. The increasing
threat   of   fire   hazards necessitates the development of efficient and
accurate fire and smoke detection systems. Traditional methods, which
rely on sensors and manual monitoring, often result in delayed detection
and high false alarm rates. This project explores the implementation   of
a machine learning approach using Convolutional Neural Networks (CNNs)
to enhance the reliability and speed of fire and smoke detection.

Leveraging   a   comprehensive   dataset of images and videos depicting
various fire and smoke scenarios, the CNN model is trained to recognize
and differentiate between fire, smoke, and non-hazardous conditions. The
model's   architecture includes   several convolutional and pooling layers,
followed by fully connected layers for accurate classification.

Extensive   experimentation   with hyperparameters and optimization
techniques   ensures the model   achieves high precision and recall rates,
minimizing false positives and false negatives. The deployment of the
trained model on real-time video feeds   demonstrates its capability   to
provide timely alerts, thereby significantly enhancing safety measures.

This project highlights the potential of machine learning in critical
safety applications and underscores the importance of continuous model
improvement and dataset expansion to adapt to evolving fire detection
needs. The results indicate a promising advancement in automated fire
and smoke detection, with implications for various industries, including
residential safety, industrial monitoring, and environmental protection.

"The Scholar's Fortune"

A PROJECT REPORT
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Declaration

We hereby declare that the work presented in this report entitled **"The Scholar's Fortune"**, 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 sincere gratitude and appreciation to all those who have contributed to the successful completion of our project, Scholar's Fortune.

First and foremost, we would like to express our heartfelt thanks to our Professor In-charge of CSE Department ,**Dr. Shashank Sahu**, for their unwavering support and encouragement throughout the project. Their guidance, mentorship, and belief in our abilities have been instrumental in shaping our project journey and enabling us to overcome challenges with confidence.

We also express our sincere gratitude to our project supervisor **Mr. Vikas** , for their invaluable guidance, mentorship, and unwavering support throughout the duration of this project. Their expertise and insightful feedback have been instrumental in steering our team towards achieving our goals.

We are grateful to the faculty members of the **Computer Science and Engineering** at **Ajay Kumar Garg Engineering College ,GZB** for their encouragement, academic support, and valuable insights that have enriched our learning experience and contributed to the success of our project.

We would like to acknowledge the dedication and hard work of each member of our team. Vishal Goel, Prince Kumar, Yash Vardhan Singh, Deepika Gupta , and Nikhil Soni have demonstrated exceptional teamwork, creativity, and problem-solving skills, contributing their unique talents and expertise to different aspects of the project.

Abstract

Access to education is essential for personal and societal advancement, yet financial constraints often impede students from pursuing their academic aspirations. The proliferation of scholarships offers a promising solution, but the fragmented nature of scholarship information makes it challenging for students to identify relevant opportunities. To address this issue, we present the design and development of a comprehensive scholarship search website aimed at simplifying the scholarship discovery process for students.

The project objectives include developing an intuitive and user-friendly platform that aggregates scholarship information from various sources, enabling students to efficiently search for scholarships based on their preferences and qualifications. Leveraging advanced search algorithms and personalized recommendations, the website enhances accessibility and promotes equitable access to opportunities for students from diverse backgrounds.

Using a systematic approach grounded in software development life cycle (SDLC) methodologies, the project encompasses the design and implementation of the website's architecture, database management, and user interface. Through rigorous testing procedures and user feedback analysis, the website's functionality, usability, and performance were evaluated, resulting in iterative improvements to optimize the user experience.

The project's significance lies in its potential to democratize access to education by empowering students to overcome financial barriers and pursue their educational goals. By centralizing scholarship information and providing a seamless search experience, the website contributes to promoting educational equity and fostering a more inclusive society.

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DENSITY BASED TRAFFIC LIGHT CONTROL SYSTEM

A PROJECT REPORT
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SITY BASED TRAFFIC LIGHT CONTROL SYSTEM", was carried out
by us. We have not submitted the matter embodied in this report for the
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Abstract

Density-based traffic light control systems aim to optimize traffic flow and minimize congestion by dynamically adjusting signal timings based on real-time traffic density. Traditional traffic light control methods often operate on fixed schedules or simple timers, leading to inefficiencies and delays, especially during peak hours.

In this project, we propose a novel density-based traffic light control system implemented using AI (Artificial Intelligence) technology. The system utilizes sensors placed at key intersections to monitor vehicle density and flow in real-time. Data from these sensors is processed using advanced AI algorithms to dynamically adjust traffic signal timings.

By intelligently analyzing traffic density patterns, our system optimizes signal phases to prioritize high-density routes and reduce wait times at intersections. This approach improves overall traffic efficiency, reduces congestion, and enhances road safety by minimizing the likelihood of accidents caused by gridlock or sudden stops.

Empirical evaluations demonstrate the effectiveness of our proposed model in improving traffic flow and reducing travel time for commuters. The flexibility and adaptability of our system make it suitable for deployment in urban environments, where traffic conditions can vary dynamically throughout the day.

By leveraging AI technology and data-driven algorithms, our density-based traffic light control system offers a scalable and efficient solution to modernize urban transportation infrastructure, ultimately contributing to safer and smoother traffic operations.

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AutoTrack-image based attendence system

A PROJECT REPORT
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May 21, 2024

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Declaration

We hereby declare that the work presented in this report entitled "AutoTrack: Intelligent Attendance Management System with Facial Recognition", The manual attendance management system prevalent in educational institutions is prone to errors, time-consuming, and lacks efficiency. To address these challenges, this project proposes an Automated Attendance Management System (AAMS) utilizing image recognition techniques. The system aims to streamline the attendance process by automating the identification of students through facial recognition

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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This is to certify that the report entitled **AutoTrack: Intelligent Attendance Management System with Facial Recognition** submitted by **Sunil Kumar Chakravartty (2000270100161), Shreeyansh Srivastava (2000270100152), Shivam Middha (2000270100147)** and **Tushar Yadav (2000270100169)** to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (B.Tech & CSE) is a bonafide record of the project work carried out by them under 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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Acknowledgements

We would like to express our gratitude to all people who have helped and guided us to accomplish our project efficiently and successfully. Small but an important and timely help can prove be a milestone in one's life. Every human being has such kind of experience. Being human, we also have the same feeling of gratefulness of today we also have achieved an important milestone in our life.

This project is dedicated to all the people, whom we met, took guidance, talked interviewed and learned something from them, at this occasion we sincerely thank all of them while submitting this project report. We would like to heartily thank Prof. Mr. Sandeep Yadav, assistant professor, CSE who has provided us necessary information and guidance for the success of the project. Last, we would like to extend thank to all our classmates also. We would like to thank Prof. Dr.Shashank Sahu Professor In-charge, CSE, without whom this would have not been possible. We always have felt the invisible help from the almighty, without the blessing of almighty, we could not have succeeded.

Director
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E-VOTING SYSTEM USING BLOCKCHAIN

A PROJECT REPORT
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Declaration

We hereby declare that the work presented in this report entitled "E-Voting System Using Blockchain", 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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Acknowledgements

First, We would like to express our thanks to our guide Ms. Mahima Saxena Assistant Professor, Computer Science Engineering Department, Ajay Kumar Garg Engineering College, Ghaziabad for being an excellent mentor for us during our whole course of thesis. Her encouragement and valuable advice during the entire period has made it possible for us to complete my work. I am thankful to Dr. Anu Chaudhary, Head of Computer Science Engineering Department, for setting high standards for their students and encouraging them from time to time so that they can achieve them as well. We would also like to give my regards to Ms.Mahima Saxena and Mrs. Bhumica Verma, for the motivation and inspiration in this journey. We would also like to thank entire faculty and staff of Computer Science Engineering and our friends who devoted their valuable time in completion of this work. Lastly, we would like to thank our parents for their years of unyielding love and encourage. They have wanted the best for us and we admire their sacrifice and determination.

Director
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E-MAIL CLASSIFIER

A PROJECT REPORT
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Declaration

We hereby declare that the work presented in this report entitled "**E-Mail Classifier**", 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

First and foremost, we express our sincere appreciation to **Ajay Kumar Garg Engineering College** for their support and encouragement throughout this project. Their vision and commitment to innovation have been instrumental in bringing this system to fruition.

We are deeply thankful to our guide, Professor **Dr. Shashank Sahu**, whose expert guidance and mentorship have been pivotal in steering this project to success. Additionally, we extend our gratitude to the Head of Department, Professor **Dr. Anu Chaudhary**, for their unwavering support and belief in the potential of our work.

We would also like to thank the individuals and organizations who provided valuable feedback and input during the testing phase. Your insights have helped us refine the system and improve its functionality.

Last but not least, we acknowledge the trust and confidence placed in us by the users of the Email Classifier System. Your participation and engagement are essential in shaping the future of safety technologies. We are also grateful to our parents for their unwavering support and encouragement throughout this journey.

Thank you to everyone involved for your unwavering support and commitment to advancing technology for the betterment of society.

Tanisha Agarwal
Saurav Shishodia
Somya Garg
Sanskruti Jindal

Director
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Abstract

The Email Classifier project implements machine learning techniques to automate the categorization of incoming emails. It begins by collecting a dataset of labeled emails, then preprocesses the data by cleaning and standardizing it. Features are extracted from the preprocessed text using methods like Bag-of-Words or TF-IDF. Machine learning models, such as Support Vector Machines or Naive Bayes, are trained on these features to learn patterns and associations between email content and categories. Once trained, the models can accurately classify new incoming emails into predefined categories, improving productivity by efficiently managing email overload.

Future improvements could involve fine-tuning the models with additional data and exploring more advanced natural language processing techniques, such as deep learning architectures, to enhance classification accuracy. Overall, the Email Classifier project offers a practical solution for individuals or organizations looking to streamline their email management process, allowing users to focus their time and attention on more critical tasks.

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BREAST CANCER DETECTON USING VISION TRANSFORMERS

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

Department of Computer Science & Engineering
AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
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May 25, 2024

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Declaration

We hereby declare that the work presented in this report entitled "BREAST CANCER DETECTON USING VISION TRANSFORMERS", 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.

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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Abstract

The early diagnosis of breast cancer is a critical effort that significantly contributes to saving lives, as breast cancer remains one of the most deadly forms of cancer due to its tendency to remain asymptomatic until reaching advanced stages. Histopathologic images provide detailed microscopic views of tissue samples that are invaluable for detecting cancerous changes, but differentiating between malignant and non-cancerous tissues in these images poses a significant challenge due to subtle variations in cellular morphology and tissue structure. In our study, we address this challenge by utilizing the Vision Transformers (ViT) model, a cutting-edge transformer architecture that employs a self-attention mechanism, adept at extracting fine-grained features from histopathologic images, crucial for improving classification accuracy between malignant and benign tissues. We explore fine-tuning strategies specifically tailored for medical image processing to ensure optimal performance of the ViT model in this domain, and through extensive testing and validation, our ViT-based system demonstrates promising results, achieving a training accuracy of 93% and a robust testing accuracy of 91%, underscoring the transformative potential of Vision Transformers in breast cancer detection. These outcomes offer new hope for improved patient care and healthcare outcomes by enhancing early diagnostic capabilities. However, it is important to acknowledge the limitations of this study, including dataset size and diversity, model interpretability, and computational requirements, which warrant further investigation.

Future work should focus on addressing these limitations, exploring the integration of ViT models with other diagnostic tools, and validating the model's performance across larger and more diverse datasets, as our findings indicate that Vision Transformers hold considerable promise in revolutionizing early breast cancer detection through the analysis of histopathologic images.

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