Project ID: 23-24/IT/G38

A PROJECT THESIS ON

Computer Vision Based Attendance System

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Nishant Singh (2000270130112)
Prashant Sharma (2000270130122)

Under the guidance of
Ms.Ka[redacted] Tanwar

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
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Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "Computer Vision Based Attendance 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 and 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 and sources.
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Acknowledgements

Apart from my efforts, the success of the project depends largely 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 Dr.Rahul Sharma, our Head of the department, Dr. Sunil Kumar and Dr. Nitin Sharma, 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 Ms.Kamini Tanwar for their 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

In an increasingly digital and data-driven world, the management of attendance in various settings, such as educational institutions and workplaces, remains a time-consuming and error-prone process. Traditional methods of recording attendance, such as manual sign-in sheets or RFID-based systems, often suffer from issues like proxy attendance and inefficient data collection. This abstract presents a solution in the form of a Computer Vision-Based Attendance System.

The Computer Vision-Based Attendance System employs state-of-the-art computer vision techniques to automate the process of capturing and recording attendance. The system utilizes cameras and advanced image processing algorithms to identify and authenticate individuals as they enter a predefined area, such as a classroom or a workplace. This identification is based on unique facial features and patterns, allowing for highly accurate and secure attendance tracking.

In this report, we explore the development and implementation of a computer vision-based attendance system, leveraging advanced face recognition algorithms to achieve high accuracy and reliability. The primary objective of this research is to compare the performance of three prominent algorithms—K-Nearest Neighbors (KNN), Support Vector Machine (SVM), and Convolutional Neural Network (CNN)—in recognizing faces for attendance tracking. Through a comprehensive evaluation, we found that CNN outperforms KNN and SVM with an accuracy of 89%, compared to 66% and 83%, respectively.

Despite CNN's superior performance, the study also investigates the Local Binary Patterns (LBP) algorithm, known for its effectiveness in texture analysis. By integrating LBP with CNN, we aim to further enhance the recognition accuracy and reduce the false recognition rate. The hybrid approach classifies a face as recognized only if both algorithms—LBP and CNN—identify it correctly, leveraging their distinct working principles for

Project ID: 23-24/IT/G37

A PROJECT THESIS ON

Image Based Medical History for Medical Advice

Submitted
in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Technology
in
Information Technology
by

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Abstract

In response to the escalating demand for personalized and efficient healthcare solutions in the contemporary landscape, this project presents a sophisticated and holistic medical history system infused with cutting-edge machine learning capabilities for predictive analysis. The foundational element of this comprehensive system is an intricately designed and secure database meticulously crafted to house and manage the multifaceted medical records of patients. Leveraging the formidable power of state-of-the-art machine learning algorithms, the platform proactively delivers nuanced and accurate predictive assessments for pivotal health conditions, encompassing heart failure.

This groundbreaking system is designed to transcend the conventional boundaries of healthcare by scrutinizing vast troves of historical health data. Its objective is not merely to furnish timely medical advice but to provide insights that are nuanced, data-driven, and precision-oriented. By doing so, the system aims to empower not only healthcare professionals but also patients in the proactive and informed management of potentially serious health conditions. The overarching goal is to shift the paradigm of healthcare from reactive to proactive, ensuring that interventions are timely, personalized, and optimized for individual patient needs.

This project represents a pioneering and transformative endeavor in the realm of healthcare technology, pushing the boundaries of machine learning applications for preventive healthcare. As a result, it holds the potential to significantly enhance patient outcomes, improve the quality and efficiency of healthcare delivery, and optimize the allocation of healthcare resources. By seamlessly integrating technology and healthcare, this initiative stands

Acknowledgements

We extend our heartfelt gratitude to everyone who has contributed to the successful completion of this thesis titled **'Image based Medical History for Medical Advice project"**. This journey has been a collaborative effort, and we are thankful for all the support, guidance, and inspiration provided by our mentor and supervisor Dr. Shailza Kanwar (Assistant Professor in Department of Infomation Technology). Her unwavering support, insightful guidance, and invaluable expertise throughout the entire project implementation process. Her encouragement and constructive feedback have been instrumental in shaping the direction of this project.

Special thanks to the Head of the Department (Prof. (Dr.) Rahul Sharma)and the Professor In charge (Prof. (Dr.) Anupama Sharma) for providing the support and facilities for smooth conduct of the project.

Finally, we thank our parents and family members for supporting us during the entire duration of project.

Project ID: 23-24/IT/G36

A PROJECT THESIS ON

Online Voting System Using Blockchain

Submitted
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Bachelor of Technology
in
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by

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Acknowledgement

We express our sincere gratitude to all individuals whose contributions have been instrumental in the development and implementation of the project, entitled "Online Voting System Using Blockchain" would not have been possible without the tireless efforts and guidance of several individuals. We would like to express our sincere gratitude to Mr. Amit Kumar, our esteemed guide. We are deeply grateful for your invaluable guidance and expertise throughout the project. Your insightful suggestions, unwavering support, and constant encouragement have played a crucial role in shaping this project into its final form , and Mrs. Sunil Kumar, our dedicated project coordinator: We sincerely appreciate your relentless effort in coordinating and managing the project's progress.Our fellow group members: We extend our heartfelt thanks to each member of our group for their dedicated effort, collaborative spirit, and unwavering commitment. Their spirit of teamwork and knowledge exchange , the shared experiences and insights have been invaluable, fostering a learning environment that is both inspiring and motivating. We value each individual's contribution and appreciate the diverse perspectives and expertise that each member brought to the table.We are truly indebted to these individuals for their invaluable contributions to our project. Their guidance, support, and collaboration have enabled us to navigate challenges, overcome obstacles, and ultimately achieve our project objectives. We are grateful for the opportunity to work under their leadership and learn from their vast experience.

Abstract

Traditional paper-based voting methods utilized in many modern democracies face certain challenges such as possible human errors during ballot counting as well as issues of misuse or fraud. As a result, newer forms of digital voting systems have continued to be proposed and introduced to attempt to address ongoing problems, but concerns regarding security, transparency and fairness still persist among many election experts and observers.Blockchain technology has recently been suggested as one solution that may help ensure security, privacy and integrity across the entire voting process from voter registration through ballot casting and final tabulation. Specifically, one proposal discussed that stores hashed versions of voter identification and registration information on the blockchain to guarantee anonymity for voters.Our foremost focus revolves around bolstering the security measures within existing blockchain-based voting systems. To achieve this, we are emphasizing advanced cryptographic protocols to fortify the system against potential threats. Additionally, our strategy involves implementing stringent identity verification methods and enhancing encryption techniques to safeguard voter data. We are committed to continuous testing and auditing of system components to identify and rectify vulnerabilities promptly. Our aim is to ensure a resilient and tamper-proof environment for secure and trustworthy elections.

Project ID: 23-24/IT/G34

A PROJECT THESIS ON

PREDICTION AND DIAGNOSIS OF HEART DISEASE AND CHANCES OF HEART ATTACK

Submitted
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Bachelor of Technology
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Under the guidance of
Ms. Mamta Pant

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We hereby declare that the work presented in this report, entitled "PREDICTION AND DIAGNOSIS OF HEART DISEASE AND CHANCES OF HEART ATTACK", 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 and sources for all the words, ideas, diagrams, graphics, 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 and sources.

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Acknowledgements

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 **"Prediction and Diagnosis of Heart Disease and Chances of Heart Attack."**

Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. We are grateful to our respected Head of the Department Prof.(Dr.) Rahul Sharma, for allowing us to use the facilities available.

We would like to show our greatest appreciation to Ms. Mamta Pant and other Faculty members. We cannot thank them enough for their tremendous support and help. They motivated and encouraged us every time while selecting the proper project topic. Without their encouragement and guidance, we would have not been able to complete the project successfully.

Abstract

The global burden of cardiovascular diseases (CVDs) persists as a critical public health challenge, necessitating innovative strategies to mitigate its impact through early detection, accurate diagnosis, and proactive health management. Recognizing this imperative, a multifaceted project has been launched, introducing an integrated system that amalgamates predictive analytics, diagnostic modules, and personalized health guidance via an intuitive chatbot interface. Harnessing the power of machine learning algorithms, this sophisticated system sifts through a myriad of health data, discerning patterns and indicators to gauge an individual's susceptibility to heart diseases. By employing cutting-edge algorithms such as Random Forest, K-Nearest Neighbor, Logistic Regression, and Artificial Neural Networks, the system achieves nuanced classification and risk assessment, fostering a deeper understanding of cardiovascular health.

Central to the project's ambition is the refinement of heart disease detection algorithms, fine-tuning them to account for various patient health factors and nuances in disease manifestation. This meticulous approach ensures not only accuracy in diagnosis but also the ability to detect subtle warning signs well in advance, facilitating timely interventions. Complementing the diagnostic prowess is the development of a conversational chatbot interface, designed to engage users in personalized health dialogues. Leveraging natural language processing and sophisticated decision-making algorithms, the chatbot provides tailored advice, empowering individuals to make informed lifestyle choices and adhere to preventive measures.

Moreover, the system boasts an intelligent and user-friendly graphical user interface (GUI), crafted with a seamless fusion of machine learning capabilities and the Flask framework. This GUI serves as the gateway to the system's functionalities, offering intuitive navigation and insightful visualizations to enhance user engagement and comprehension. With a steadfast commitment to early detection, continuous monitoring, and user-centric design principles, this AI-driven system represents

Project ID: 23-24/IT/G33

A PROJECT THESIS ON

Fraud MonitorX

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We hereby declare that the work presented in this report, entitled "Fraud MonitorX", 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 and 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 and sources.

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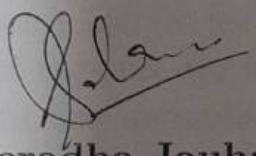

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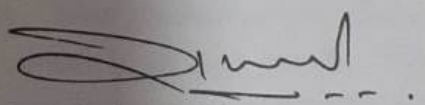

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Acknowledgements

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 "Fake Review Detection System using Machine Learning".Our sincere thanks go to Ms. Sheradha Jauhari, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Ms. Jauhari's expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. Her dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group.We extend our appreciation to the faculty members of the Information Technology Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.Last but not least, we would like to express our gratitude to our families for their unwavering love, support, and encouragement throughout our academic endeavors. This project would not have been possible without the support and guidance of Ms. Sheradha Jauhari and everyone else who has contributed to its successful completion.

Abstract

In today's digital age, online consumer reviews wield substantial influence over purchasing decisions, shaping consumer perceptions and significantly impacting businesses' profitability. Positive reviews can propel a business to new heights, attracting a broader customer base, while negative reviews can deter potential customers and damage a brand's reputation. Consequently, the authenticity of these reviews is paramount. However, the prevalence of fake reviews has emerged as a significant concern, compelling researchers to explore various methods for detection and mitigation. The proliferation of fake reviews undermines consumer trust and distorts the marketplace, leading to misguided purchasing decisions and unfair competition.This comprehensive survey paper serves as a repository of knowledge, aggregating a vast body of literature dedicated to identifying fake reviews. It meticulously analyzes diverse datasets, shedding light on the myriad challenges posed by these deceptive entries. The paper delves into the characteristics of fake reviews, exploring how they differ from genuine ones in terms of language, sentiment, and temporal patterns. It also examines the motivations behind creating fake reviews, ranging from financial incentives to competitive sabotage, and the different actors involved, including businesses, competitors, and professional review manipulators.

Project ID: 23-24/IT/G32

A PROJECT THESIS ON

Election Result Prediction using Twitter Sentiment Analysis

Submitted
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Date:May, 2024

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Acknowledgement

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 "Election Result Prediction using Twitter Sentiment Analysis." Our sincere thanks go to Ms. Chitra our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Dr. Agrawal's expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. His dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Ms. Chitra and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

The advent of social media has transformed the landscape of election forecasting. This study explores the efficacy of using Twitter sentiment analysis to predict election results. By collecting and analyzing tweets related to candidates and political parties, we aimed to gauge public sentiment and its correlation with actual voting outcomes. We utilized natural language processing techniques to classify tweets into positive, negative, and neutral sentiments. Machine learning algorithms were employed to analyze these sentiments over time and across different regions.

The analysis revealed a significant correlation between Twitter sentiment and election results, suggesting that social media sentiment can be a viable predictor of electoral success. Specifically, positive sentiment trends for candidates were often reflected in their voting percentages. However, the study also identified limitations, including demographic biases in Twitter users and the potential impact of bots and spam accounts. Despite these challenges, our findings contribute to the growing body of literature on social media analytics and offer valuable insights for political strategists and analysts. Future research should focus on refining sentiment analysis algorithms and addressing the biases inherent in social media data to enhance the accuracy of election predictions.

In addition to sentiment classification, the study investigated the temporal dynamics of tweet volumes and their relationship to key campaign events. Peaks in tweet activity often corresponded with debates, rallies, and major policy announcements, highlighting the real-time nature of social media as a reflection of public engagement. Furthermore, sentiment polarity shifts provided early indicators of changing voter preferences and emerging political trends. The integration of geographic information allowed for a more granular analysis, revealing regional differences in political discourse and sentiment. These findings underscore the potential of Twitter sentiment analysis not only as a predictive tool but also as a means to understand the evolving landscape of electoral politics in real-time.

Moreover, the study explored the role of influential users and their impact on the overall sentiment landscape. Influencers, including journalists, celebrities, and political analysts, were found to significantly sway public opinion through their high-engagement tweets. By mapping the network of interactions and retweets, we identified key opinion leaders and their influence on the broader conversation. This network analysis provided insights into how information dissemination and sentiment formation occur on social media platforms.

The study also addressed the ethical considerations of using social media data for election predictions. Concerns about privacy, data security, and the representativeness of Twitter users were critically examined. We proposed methodologies for ensuring data anonymization and highlighted the need for transparent and responsible use of social media analytics in the political domain.

Overall, our research demonstrates the potential of Twitter sentiment analysis as a multifaceted tool for predicting election outcomes, understandi[illegible]d capturing the pulse of the electorate. The integration of advanc[illegible]-

Project ID: 23-24/IT/G31

A PROJECT THESIS ON

VerifiedHire: Revolutionizing Employee verification with Blockchain

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for fulfillment of award of
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AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Project ID: 23-24/IT/G31

A PROJECT THESIS ON

VerifiedHire: Revolutionizing Employee verification with Blockchain

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Ashish Mangal (2000270130036)
Harendra Chauhan (2100270139003)
Vaibhav (2000270130181)
Yashkant Tyagi (2000270130197)

Under the guidance of

Dr. Rashmi Sharma

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Declaration

We hereby declare that the work presented in this report, entitled "VerifiedHire: Revolutionizing Employee verification with 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 and 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 and 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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This is to certify that the report entitled **VerifiedHire** submitted by **Ashish Mangal (2000270130036), Harendra Chauhan (2100270139003), Vaibhav (2000270130181)** and **Yashkant Tyagi (2000270130197)** to the Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology, Computer Science, and Information Technology) 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, to the best of my knowledge.

Rashmi 24/5/24.

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Date: May 24, 2024
Place: Ghaziabad

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Ghaziabad

Acknowledgements

We would like to express our sincere gratitude to all those who have contributed to the successful completion of this project. First and foremost, we are highly indebted to Prof Rahul Sharma, Head of Department Information Technology, for providing us an opportunity to undertake a project as partial fulfillment of the requirements for the degree of Bachelor of Technology in Information Technology.

We would like to express our special gratitude to our project guide, Dr. Rashmi Sharma for giving us such attention and time. Our guide had taken great pain and efforts to help us the best way without whom this project would ever be realized.

I would like to acknowledge the contributions of my colleagues and friends who provided valuable insights and feedback during brainstorming sessions and discussions. I am also grateful to my family for their unwavering support and understanding during the demanding phases of this project. Their encouragement and patience were crucial in sustaining my motivation.

Lastly, I express my appreciation to all those who, directly or indirectly, contributed to the realization of this project. Your support has been instrumental, and I am truly thankful.

Project ID: 23-24/IT/21

A PROJECT THESIS ON

CropWatch - A Crop Disease Detector

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Under the guidance of
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to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

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Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled "Crop Watch-A Crop Disease Detector", 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.

We affirm that no portion of our 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, We shall be fully responsible and answerable.

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Acknowledgement

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. Pradeep Tripathi**, Department of Information Technology, 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. It is only their cognizant efforts that our endeavors have seen light of the day.

We also take the opportunity to acknowledge the contribution of **Dr. Rahul Sharma**, Head, Department of Information Technology, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project.

Abstract

The "Crop-Watch" project aims to revolutionize crop disease management by introducing an advanced system for disease detection and prediction. Focused on analyzing plant leaves, this initiative addresses critical challenges in agriculture. Traditional methods of disease identification are laborious and error-prone. The project emphasizes early disease detection, a pivotal factor in effective management, often hindered by the rapid and subtle onset of diseases. Additionally, the project promotes sustainable agricultural practices by mitigating the environmental impact of excessive pesticide use. Accessibility remains a key concern, especially for small-scale farmers lacking access to advanced technologies. The project integrates state-of-the-art technology, including machine learning and image analysis, to develop an automated system capable of real-time disease predictions. By combining agricultural expertise, data analytics, and cutting-edge technology, the "Crop-Watch" project signifies a significant step toward securing a stable and sustainable food supply for the growing global population.

Project ID: 23-24/IT/G22

A PROJECT THESIS ON

Motion Talk

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Dev Gupta (2000270130049)
Ayush Singh (2000270310047)
Hari Bhajan Singh (2000270110066)

Under the guidance of

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to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

June, 2024

Director
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Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled "**Motion Talk**", 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 project report entitled **Motion-Talk** submitted by Divyansh Singh (2000270130058), Dev Gupta (2000270130049), Ayush Singh (2000270310047) and Hari Bhajan Singh (2000270130066) to the Ajay Kumar Garg Engineering College Ghaziabad in partial fulfillment for the award of **Bachelor Of Technology** from **Dr. A. P. J. Abdul Kalam Technical University, Lucknow**. This degree of B. Tech in (Information Technology) is a bonafide record of project work carried out by them under my/our supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

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Place: Ghaziabad
Date: June, 2024

Director
Ajay Kumar Garg Engg. College
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Acknowledgements

We express our deep sense of gratitude to our RESPECTED HOD Prof. Rahul Sharma, Ajay Kumar Garg Engineering College for the valuable guidance and for permitting us to carry out this project. Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. We would like to show our greatest appreciation to Mrs. Priti Chaudhary and other staff members. We cannot think them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

With Gratitude,
Divyansh Singh (2000270130058)
Dev Gupta (2000270130049)
Ayush Singh (2000270310047)
Hari Bhajan Singh (2000270130066)

Abstract

Sign language serves as the primary means of communication for the non-verbal and hearing-impaired communities. It is characterized by hand gestures, facial expressions, and body movements. The lack of effort from the hearing population to learn sign language contributes to the social isolation of the deaf community. Our project aims to reduce inequalities and tackle the pressing issue of communication barriers faced by this community in India through the development of an Indian Sign Language Recognition and Communication System by creating a real-time recognition algorithm and integrating it into a user-friendly interface to design a robust software solution. At first, we trained CNN (Convolutional Neural Network) machine learning models on the augmented images taken from the Kaggle dataset. However, accuracy was high only on the trained data sets and not on any new image other than the dataset. Therefore, we converted the dataset images into canny images which retained only the outline of hand gestures and finally trained the CNN model on this dataset. It resulted in high accuracy even on the new images. This initiative seeks to empower this community by providing an inclusive and efficient means of communication that accommodates their unique needs.

Project ID: 23-24/IT/G24

A PROJECT THESIS ON

Smart Report for Healthcare System

Submitted
for the fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Rahul Maurya (2000270130130)
Rahul Suman (2000270130131)
Rajan Maurya (2000270130133)
Bhupender Kumar (2100270139002)

Under the guidance of

Mr. Achintya Kumar Pandey

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

MAY,2024

Director
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Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled **"Smart Report For Healthcare 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. 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.

We 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, We will be fully responsible and answerable.

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Certificate

Certified that **Rahul Maurya** (2000270130130), **Rahul Suman** (20002 70130131), **Rajan Maurya** (2000270130133), **Bhupender Kumar** (21 00270139002) has carried out the Project / Research entitled **"Smart Report For Healthcare System"** for the award of **Bachelor Of Technology** from Dr. A.P.J. 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: 28/05/2024

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Ghaziabad

Acknowledgement

_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 "Smart Report For Healthcare System" Our sincere thanks go to Mr. Achintya Kumar Pandey, our esteemed project guide, for his invaluable guidance, expertise, and unwavering support. Mr. Achintya Kumar Pndey's expertise, encouragement, and insightful feedback have been instrumental in shaping. this research endeavor. His dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Mr. Achintya Kumar Pndey and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion..

Abstract

In the ever-evolving landscape of healthcare, the effective interpretation and presentation of pathology patient data play a pivotal role in diagnosis, treatment, and research. This project aims to create a comprehensive and user-friendly platform for visualizing pathology patient data. By harnessing advanced data visualization techniques and tools, the project seeks to provide healthcare professionals, researchers, and patients with a visually intuitive representation of complex pathology data, including laboratory results, biopsy findings, and diagnostic reports. The visualizations will enable quicker and more informed decision-making, fostering enhanced patient care and medical research. This project addresses the critical need for transforming raw data into meaningful insights, ultimately improving the quality of healthcare services and advancing the understanding of various diseases.

As healthcare continues to evolve, the potential benefits of Smart Healthcare Systems are evident, including enhanced patient outcomes, reduced costs, and improved healthcare delivery. However, the challenges and barriers to widespread adoption are also discussed.
In conclusion, this report underscores the profound impact of Smart Healthcare Systems on the future of medical services. It provides valuable insights for healthcare professionals, policymakers, and stakeholders to navigate the changing landscape and maximize the benefits of smart technologies in healthcare. As healthcare providers and institutions continue to embrace the concept of a smart healthcare system, this report serves as a valuable resource for understanding the evolving landscape of healthcare delivery. It offers recommendations for stakeholders, policymakers, and healthcare professionals to harness the full potential of smart healthcare technologies while ensuring patient-centered care, data security, and regulatory compliance.

Project ID: 23-24/IT/G26

A PROJECT THESIS ON

ACTIVE DIRECTORY NETWORKING INFRASTRUCTURE LAB

Submitted
for the fulfillment of award of
Bachelor of Technology
in
Information Technology
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Under the guidance of
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AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

June 1, 2024

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Ajay Kumar Garg Engg. College
Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled "ACTIVE DIRECTORY AND NETWORKING INFRASTRUCTURE", 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 **Active Directory and Networking Infrastructure** submitted by **Abhishek Shukla (2000270130008), Ayush Kaushal (2000270130043), Niyati Tyagi (200027013 0116)** and to the Dr. A.P.J Abdul Kalam Technical University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology) 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, to the best of my knowledge.

Prof. 1
Mr. Madhup Agrawal
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Dr Rahul Sharma
Professor & HOD
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01/06/24

Place: Ghaziabad

Date: June 1, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Acknowledgements

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 "Active Directory and Networking Infrastructure Lab." Our sincere thanks go to Mr. Madhup Agrawal our esteemed project guide, for his invaluable guidance, expertise, and unwavering support. Dr. Madhup Agrawal expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. His dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Mr. Madhup Agrawal and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

ACTIVE DIRECTORY NETWORKING:

[1] The Active Directory (AD) is a directory service developed by Microsoft for Windows domain networks. Windows Server operating systems include it as a set of processes and services. AD is used to store information about users, computers, devices, and other network resources. It also provides authentication and authorization services, allowing users to access network resources based on their permissions. Networking is the practice of connecting computers and other devices together so that they can communicate with each other. Networks can be wired or wireless, and they can be small or large. AD is often used in large networks to provide centralized management of users, resources, and security. An Active Directory (AD) networking infrastructure lab is a simulated or virtual environment that replicates the structure and functionality of a realworld Active Directory domain network. In such a lab, administrators can practice various tasks related to deploying, managing, and securing Active Directory environments without impacting production systems. Active Directory networking infrastructure lab typically involves:

- Domain Controllers: In a lab environment, one or more virtual or physical machines act as domain controllers. These servers host the Active Directory Domain Services (AD DS) role, which manages user accounts, group policies, permissions, and other directory-related functions.
- Client Machines: These are computers joined to the Active Directory domain. They represent the end-user devices that access network resources and services. Client machines can include Windows PCs, servers, and other devices.
- Networking Setup: The lab environment usually includes virtual or simulated networking components to mimic a real network infrastructure. This can involve configuring IP addresses, subnets, DNS servers, DHCP services, and other network-related settings.

Project ID: 23-24/IT/G28

A PROJECT THESIS ON

Model Development For Prediction Of Various Oceanic Parameters

Submitted
for the fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Kushagra Tyagi (2000270130094)
Raghvendra Vats (2000270130129)
Yashraj Singh (2000270130198)
Yuvraj Singh (2000270130199)

Under the guidance of
Dr. Shivani Agarwal

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May 30, 2024

Director
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Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "Model Development For Prediction Of Various Oceanic Parameters", 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 and 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 and 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

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Dr Rahul Sharma
Professor & HOD
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Date: May, 2024
Place: Ghaziabad

Director
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Ghaziabad

Acknowledgements

We would like to express our sincere gratitude to all those who have contributed to the successful completion of this project. First and foremost. we are highly indebted to Prof Rahul Sharma, Head of Department Information Technology, for providing us an opportunity to undertake a project as partial fulfillment of the requirements for the degree of Bachelor of Technology in Information Technology.

We would like to express our special gratitude to our project guide, Dr. Shivani Agarwal for giving us such attention and time. Our guide had taken great pain and efforts to help us the best way without whom this project would ever be realized.

I would like to acknowledge the contributions of my colleagues and friends who provided valuable insights and feedback during brainstorming sessions and discussions. I am also grateful to my family for their unwavering support and understanding during the demanding phases of this project. Their encouragement and patience were crucial in sustaining my motivation.

Lastly, I express my appreciation to all those who, directly or indirectly, contributed to the realization of this project.Your support has been instrumental, and I am truly thankful.

Contents

List of Figures

Chapter 1

Abstract

An early warning tsunami prediction system is an ML project that predicts the probability of occurrence of tsunami based on the earthquake magnitude or wind speed , Our project improves the survival rate of the shoreline people and the destruction rate is also reduced by providing the authorities with near about correct predictions.Our project takes in the seismic activity i.e. Earthquake Magnitude,The location of the place and the month earthquake hit the place, After taking various other inputs our project predicts the chances of Tsunami occurrence in the place. Main aim of our project is to reduce the destruction caused by the tsunami, and reduce death toll by a certain degree.Key components of the model development process include the collection of large-scale oceanic data sets from diverse sources, such as satellite observations, buoys, and underwater sensors. Machine learning algorithms, such as deep neural networks, random forests, and support vector machines, are applied to these datasets to develop predictive models. These models are fine tuned through rigorous training and validation processes to ensure their accuracy and robustness.

Project ID: 23-24/IT/G30

A PROJECT THESIS ON

Sentimental Analysis of Digital Campaigns

Submitted
for the fulfillment of award of

Bachelor of Technology
in
Information Technology

by

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Sejal Kulshrestha (2000270130155)
Shivi Tyagi (2000270130163)
Shourya Singh Sengar (2000270130164)

Under the guidance of
Mr. Birendra Kumar

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "Sentimental Analysis of Digital Campaigns", 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 and 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 and sources.

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Name : Sejal Kulshrestha
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Roll No. : 2000270130163

Name : Shourya Singh Sengar
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Certificate

This is to certify that the report entitled **"Sentimental Analysis of Digital Campaigns"** submitted by **Rohit Kumar Singh** (2000270130139), **Sejal Kulshrestha** (2000270130155), **Shivi Tyagi** (2000270130163), **Shourya Singh Sengar** (2000270130164) to the Dr. A.P.J Abdul Kalam Technical University, in fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology), is a bonafide record of the project work carried out by group under our guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of my knowledge.

27/05/24

Mr. Birendra Kumar
Assistant Professor
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Place: Ghaziabad
Date: May 27, 2024

Director
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Ghaziabad

Acknowledgement

We express our sincere gratitude to all individuals whose contributions have been instrumental in the development and implementation of the project, entitled "Sentimental Analysis of Digital Campaigns," would not have been possible without the tireless efforts and guidance of several individuals. We would like to express our sincere gratitude to Mr. Birendra Kumar, our esteemed guide: We are deeply grateful for your invaluable guidance and expertise throughout the project. Your insightful suggestions, unwavering support, and constant encouragement have played a crucial role in shaping this project into its final form , and Dr. Sunil Kumar, our dedicated project coordinator: We sincerely appreciate your relentless effort in coordinating and managing the project's progress. Our fellow group members: We extend our heartfelt thanks to each member of our group for their dedicated effort, collaborative spirit, and unwavering commitment. Their spirit of teamwork and knowledge exchange , the shared experiences and insights have been invaluable, fostering a learning environment that is both inspiring and motivating. We value each individual's contribution and appreciate the diverse perspectives and expertise that each member brought to the table. We are truly indebted to these individuals for their invaluable contributions to our project. Their guidance, support, and collaboration have enabled us to navigate challenges, overcome obstacles, and ultimately achieve our project objectives. We are grateful for the opportunity to work under their leadership and learn from their vast experience.

Abstract

In this research, we suggest an innovative approach that leverages machine learning and natural language processing to analyse the sentiments of the public towards government initiatives within the domain of social media. Through the extraction of sentiments from diverse forms of online content, encompassing both text and multimedia, our research, titled "Sentimental Analysis of Digital Campaigns," provides real-time insights facilitated by an interactive dashboard. Employing a stacking methodology, we develop a hybrid model aimed at enhancing the accuracy of sentiment prediction. Our primary contribution lies in the identification of governmental programs and policies that evoke emotional resonance among the populace, thereby assisting policymakers in fostering trust and maximizing impact. This user-centric strategy not only promotes transparency and engagement in governance but also serves as a conduit for bridging the gap between governmental actions and public sentiment.

Project ID: 23-24/IT/G-47

A PROJECT THESIS ON

Digitized Queue Management system

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Aditya Pulast (2000270130010)
Devansh Singh (2000270130052)
Hargun Singh (2000270130066)
Mukul Bharat (2000270130108)

Under the guidance of
Mr. Amit Kumar

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled "DIGITIZED QUEUE 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, graph- ics, 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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Cetified that **Aditya Pulast (2000270130052), Devansh Singh (2000270130052), Hargun Singh (2000270130066)** and **Mukul Bharat (2000270130108)** has carried out the Project/Research entitled **Digitized Queue Management System** for the award of the Degree 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 anyone else from this or any other University/Institution.

Mr. Amit Kumar
Department of Information Technology Ajay Kumar Garg Engineering College

Dr Rahul Sharma
Professor & HOD
Department of Information Technology Ajay Kumar Garg Engineering College

Place: Ghaziabad
Date: May 10, 2024

Acknowlegement

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 "Digitised Queue Management System". Our sincere thanks go to Mr. Amit Kumar, our esteemed project guide, for his invaluable guidance, expertise, and unwavering support, his insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appre- ciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a reward ing experience, and we are proud of the collective achievement. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

In an era where efficiency and time management are paramount, traditional queuing systems often fall short, leading to long wait times and customer dissatisfaction. This research paper presents a comprehensive study on the development and implementation of a Digitized Queue Management System (DQMS), which aims to address these issues by leveraging modern technology. The DQMS is designed to streamline the queuing process across various service sectors, including healthcare, banking, and government offices. The system architecture comprises a web-based interface for administrators, a mobile application for users, and a real-time notification system. Administrators can manage and monitor queue parameters, such as the number of active queues and service times, through the web interface. The mobile application allows users to join queues remotely, receive estimated wait times, and receive notifications when their turn is approaching, thereby reducing the need for physical presence and minimizing wait times.The implementation of DQMS involves several key technological components, including cloud computing for scalable and reliable data storage, mobile technology for accessibility, and real-time data analytics for dynamic queue management.

The system is designed to be user-friendly and adaptable to different service environments. For instance, in healthcare settings, the DQMS can manage patient appointments and walk-in consultations, while in banking, it can handle teller services and customer support queues. The integration of real-time notifications ensures that users are kept informed about their queue status, reducing anxiety and enhancing the overall service experience.Empirical evaluations of the DQMS were conducted in multiple service environments to assess its effectiveness. The results indicate significant improvements in operational efficiency and user satisfaction.The findings of this research suggest that the DQMS has the potential to revolutionize traditional queuing methods, offering a more organized, efficient, and user-centric approach to service delivery. By minimizing physical crowding and providing timely updates, the system enhances both operational efficiency and customer satisfaction. The paper concludes that the widespread adoption of digitized queue management systems could lead to significant advancements in how services are delivered across various industries, ultimately contributing to improved time management and productivity on a broader scale.

Project ID: 23-24/IT/G49

A PROJECT THESIS ON

Helmet Detection and Number Plate Recognition System

Submitted
for the fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Komal Shivhare (2000270130088)
Vishnu Kaushal (2000270130190)
Yashika Saxena (2000270130196)
Ujjwal Singh (2000270130178)

Under the guidance of
Mr. Santosh Kumar Mishra

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May 27, 2024

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Date: May 24, 2024

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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 "Helmet Detection and Number Plate Recognition System." Our sincere thanks go to Mr. Santosh Kumar Mishra our esteemed project guide, for his invaluable guidance, expertise, and unwavering support. Dr. Santosh Kumar Mishra expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. His dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Mr. Santosh Kumar Mishra and everyone else who has contributed to its successful completion Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyon who played a role, directly or indirectly, in its successful completion.

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Our project presents a robust system designed to enhance road safety by integrating two critical functionalities: Helmet Detection and Number Plate Recognition. Road accidents, especially those involving motorcycles, often result in severe injuries or fatalities. One significant contributing factor to reducing the severity of these accidents is the consistent use of helmets by riders. Additionally, effective enforcement of traffic regulations, including vehicle identification through number plates, is essential for maintaining law and order on roads.

Our system leverages state-of-the-art computer vision techniques, including deep learning algorithms, for accurate and real-time helmet detection. By employing convolutional neural networks (CNNs) trained on extensive datasets, our system achieves high precision in identifying helmet-wearing individuals. This capability enables authorities to monitor and enforce helmet laws efficiently, thereby promoting safer riding practices and reducing head injuries during accidents.

Furthermore, the system incorporates advanced image processing methods and optical character recognition (OCR) techniques for number plate recognition. Through a series of preprocessing steps, character segmentation, and OCR engine utilization, our system accurately extracts alphanumeric information from vehicle number plates. This functionality facilitates the identification and tracking of vehicles, aiding law enforcement agencies in traffic management, crime prevention, and other regulatory tasks.

By integrating helmet detection and number plate recognition capabilities, our system offers a comprehensive solution for enhancing road safety. It enables authorities to monitor compliance with traffic regulations effectively, detect violations, and take timely corrective actions. Moreover, the system provides valuable insights through data analytics, facilitating evidence-based decision-making for policymakers and stakeholders in the transportation sector.

In conclusion, our proposed system represents a significant advancement in leveraging technology to address road safety challenges. By combining hel-

Project ID: 23-24/IT/G25

Malaria Detection System using Learning Algorithm

Project Thesis

Submitted in Partial Fulfillment of the Requirements for the Degree of

Bachelor of Technology
in
Information technology

by

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Under the Supervision of
Dr. Nandita Goyal

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DECLARATION

We hereby declare that the work presented in this report entitled "MALARIA 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 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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Certificate

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Place: Ghaziabad
Date: May 24, 2024

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Project ID: 23-24/IT/G45

A PROJECT THESIS ON

Detection of Crop Health with Accurate Insight and Appropriate Medication

Submitted
for fulfilment of the award of
Bachelor of Technology
in
Information Technology
by

Aman Verma (2000270130016)
Avinash Kumar Singh (2000270130040)
Deepankar Singh (2000270130047)
Deepanshu Bhutani (2000270130048)

Under the guidance of
Dr. Rashmi Sharma

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

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Declaration

We hereby declare that the work presented in this report entitled "Detection of Crop Health with accurate insight and appropriate medication", 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, 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

We would like to express our heartfelt gratitude to Dr. Rahul Sharma, Head of the Department of Information Technology, for his invaluable guidance, support, and encouragement throughout the course of our final year B.Tech project. His expertise and insights have been instrumental in shaping our project and enriching our learning experience.

We also extend our sincere appreciation to Dr. Rashmi Sharma, our project guide, for her unwavering guidance, patience, and constructive feedback. Her mentorship has been indispensable in steering us through the various stages of our project development.

We are grateful to both of them for their constant encouragement, and valuable suggestions, and for providing us with the resources necessary to successfully complete our project.

Abstract

Major population of India is dependent on agriculture and it plays an important role in the economy of India. The yield of crops is low for Indian farmers as compared to other country's farmers and the main reason for low crop yield was not proper identification of diseases of crops. Mainly diseases are caused by insects, bacteria and fungi and farmers use traditional techniques which is not very efficient with any type of fertiliser, which also impacts the production of crops. Our system uses state-of-the-art machine learning technology, which incorporates advanced algorithms and image processing techniques, to accurately identify crop diseases and recommend appropriate medication. Machine learning performs complex tasks with high accuracy without human intervention to detect crop diseases. The proposed model uses a data set that includes images of leaves such as tomatoes, apples, and soybeans. Previous works on the detection of crop health use VGG-16, VGG-19 and many more algorithms but we use ResNets, which improves the efficiency of deep neural networks with more neural layers while minimizing the percentage of error.

Project ID: 23-24/IT/G46

A PROJECT THESIS ON

Gen AI Based Demographic Data Search

Submitted
for fulfillment of award of
Bachelor of Technology
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Information Technology
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Under the guidance of
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Date: May 24, 2024

Acknowledgements

I would like to express my sincere gratitude to my Head of the Department, Mr. Rahul Sharma, for his valuable guidance, encouragement, and support throughout the course of this project. His insights and expertise have been instrumental in shaping the direction of my work, and I am truly thankful for the opportunity to learn under his leadership. I am also indebted to my project mentor, Mr. Sumit Sharma, whose continuous assistance and constructive feedback have been invaluable in the development of this project. His dedication to fostering a learning environment and his willingness to share his knowledge have significantly contributed to the success of this endeavor. I extend my thanks to the faculty members of the Information Technology for their unwavering support and for creating an atmosphere conducive to academic and research pursuits. I would also like to acknowledge the contributions of my peers and friends who provided assistance and encouragement throughout the project. Finally, I express my heartfelt gratitude to my family for their unending support and understanding during this challenging yet rewarding journey.

Abstract

The increasing availability and complexity of demographic data present unique challenges and opportunities for data-driven decision-making across various sectors. The project titled "Gen AI-based Demographic Data Search" aims to leverage Generative AI (Gen AI) to facilitate the extraction, analysis, and visualization of demographic data, thereby empowering users to derive actionable insights efficiently. This thesis outlines the development of a web application designed to enable users to input natural language queries and receive SQL-generated outputs alongside dynamic visualizations.

The primary objective of this project is to create a robust, user-friendly platform that seamlessly integrates advanced AI techniques with state-of-the-art data storage and processing technologies. The core functionalities of the application include natural language processing (NLP), prompt engineering, and speech recognition, all of which are essential for understanding user inputs and generating accurate and relevant results.

The backend of the application is powered by Snowflake, a cloud-based data warehousing platform known for its scalability, performance, and ability to handle vast amounts of data efficiently. By leveraging Snowflake's capabilities, the project ensures that demographic data is stored securely, accessed quickly, and manipulated effectively. The project utilizes the AccountAdmin role and an xsmallwarehouse configuration to optimize resource usage and manage computational workloads.

To provide a seamless user experience, the application employs Streamlit for the frontend. Streamlit is an open-source app framework that allows developers to create interactive and visually appealing web applications

Project ID: 23-24/IT/G-47

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Abstract

Our project presents a robust system designed to enhance road safety by integrating two critical functionalities: Helmet Detection and Number Plate Recognition. Road accidents, especially those involving motorcycles, often result in severe injuries or fatalities. One significant contributing factor to reducing the severity of these accidents is the consistent use of helmets by riders. Additionally, effective enforcement of traffic regulations, including vehicle identification through number plates, is essential for maintaining law and order on roads.

Our system leverages state-of-the-art computer vision techniques, including deep learning algorithms, for accurate and real-time helmet detection. By employing convolutional neural networks (CNNs) trained on extensive datasets, our system achieves high precision in identifying helmet-wearing individuals. This capability enables authorities to monitor and enforce helmet laws efficiently, thereby promoting safer riding practices and reducing head injuries during accidents.

Furthermore, the system incorporates advanced image processing methods and optical character recognition (OCR) techniques for number plate recognition. Through a series of preprocessing steps, character segmentation, and OCR engine utilization, our system accurately extracts alphanumeric information from vehicle number plates. This functionality facilitates the identification and tracking of vehicles, aiding law enforcement agencies in traffic management, crime prevention, and other regulatory tasks.

By integrating helmet detection and number plate recognition capabilities, our system offers a comprehensive solution for enhancing road safety. It enables authorities to monitor compliance with traffic regulations effectively, detect violations, and take timely corrective actions. Moreover, the system provides valuable insights through data analytics, facilitating evidence-based decision-making for policymakers and stakeholders in the transportation sector.

In conclusion, our proposed system represents a significant advancement in leveraging technology to address road safety challenges. By combining hel-

Project ID: 23-24/IT/G50

A PROJECT THESIS ON

Decentralized Crowdfunding Platform Using Blockchain

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Utkarsh Jaiswal (2000270130180)
Vikram Pratap (2000270130188)

Under the guidance of
Ms. Priti Choudhary

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

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Declaration

We hereby declare that the work presented in this report entitled "DECENTRALIZED CROWDFUNDING", 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

Apart from the efforts of all the team members, the section
report topic depends largely on the encouragement and gu
teachers. We take this opportunity to express our gratitude t
who have been instrumental in the approval of this proje
grateful to our respected Head of the Department Dr. R
for allowing me to use the facilities available. We would lik
greatest appreciation to Ms. Priti Choudhary and other Fac
We cannot thank them enough for their tremendous supp
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project topic. Without their encouragement and guidance,
have been able to select the proper topic.

Abstract

After the COVID-19 pandemic hit across the globe, the economy of most countries got tampered. Since then, online engagement is at its peak and people discovered social media as a new weapon to invest and promote their business and skills. This led to the advancement of a potential concept of funding, known as crowdfunding. Crowdfunding is an online fundraising system that started as a route for common society to give modest quantities of cash to help innovative people, start-ups, NGOs, charity to fund their activities. Crowdfunding is a novel technique to directly generate cash and obtain investors for new commercial ventures from the public, rather than generating funds in traditional ways, such as leasing money from banks or pitching project ideas in front of investors. Crowdfunding websites connect investors and artists on a platform that makes investors easily accessible.Blockchain as we know is the foundation of cryptocurrency. In the future most technologies around the world are expected to use blockchain to make secure online transactions Blockchain-based crowdfunding offers an alternative to the traditional method of raising capital for businesses. Typically, when creators need money for their initiatives, they must develop marketing plans to draw in individuals or organizations. The three-tier structure of current crowdfunding approaches includes a project creator who proposes the idea of the project to be funded, an organization or investor who invests in the project, and a platform that combines these two elements to create a successful company..

Project ID: 23-24/IT/G52

A PROJECT THESIS ON

Edutopia - An E-Learning Platform Using Cloud Computing

Submitted
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in
Information Technology
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Under the guidance of

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I would like to express my sincere gratitude to my Head of the Department, Mr. Rahul Sharma, for his valuable guidance, encouragement, and support throughout the course of this project. His insights and expertise have been instrumental in shaping the direction of my work, and I am truly thankful for the opportunity to learn under his leadership.

I am also indebted to my project mentor, Mrs. Mili Srivastava, whose continuous assistance and constructive feedback have been invaluable in the development of this project. His dedication to fostering a learning environment and his willingness to share his knowledge have significantly contributed to the success of this endeavor.

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I would also like to acknowledge the contributions of my peers and friends who provided assistance and encouragement throughout the project.

Finally, I express my heartfelt gratitude to my family for their unending support and understanding during this challenging yet rewarding journey.

Abstract

The introduction of cutting-edge technologies is causing a paradigm shift in the field of education, enabling teachers to support the growth of highly qualified human resources. Teachers in higher education are realizing more and more how useful new technologies—especially cloud computing—can be for teaching. The swift assimilation of cloud computing in the field of education demands a thorough investigation of its technological potential in relation to e-learning. An extensive theoretical review of the cloud-based e-learning architectural layers and deployment models is given in this article.The study provides insightful information about the benefits of computer-based e-learning programs. Prominent advantages encompass the ease of handling instructional materials, proficient arrangement of the learning procedure, proficient instruments for overseeing information, and a sturdy security and privacy framework. The study emphasizes how cloud-based e-learning might benefit higher education institutions and establish them as manufacturers of integrated learning materials. In summary, this research adds to the expanding body of knowledge regarding the relationship between cloud computing and education. It provides a comprehensive grasp of the possible advantages and strategic ramifications of integrating cloud-based e-learning in higher education institutions by laying out a theoretical framework and supporting its assertions with practical data.

Keywords: Cutting-edge technologies, Cloud computing, E-learning, Integrated learning materials

Project ID: 23-24/IT/G39

A PROJECT THESIS ON

SIGN LANGUAGE DETECTION SYSTEM

Submitted
for the fulfillment of award of
Bachelor of Technology
in
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Acknowledgments

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 **Sign Language Detection System.**

Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. I'm grateful to our respected Head of the Department Prof.(Dr) Rahul Sharma, for allowing me to use the facilities available.

We would like to show our greatest appreciation to Mr.Sarvachan Verma and other Faculty members. We cannot thank them enough for their tremendous support and help. They motivated and encouraged us every time while selecting the proper project topic. Without their encouragement and guidance, we would have not been able to complete the project successfully.

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Abstract

Sign Language Detection Systems have emerged as powerful tools to facilitate communication between individuals with hearing impairments and the wider community. This paper presents an overview of a state-of-the-art Sign Language Detection System designed to bridge communication gaps by interpreting and translating sign language gestures into text or speech. The system utilizes advanced computer vision techniques, machine learning algorithms, and deep neural networks to accurately recognize and interpret a wide range of sign language gestures. The system's core components include a robust image processing module that captures and analyzes hand movements, facial expressions, and body language. Machine learning models trained on extensive sign language datasets enable the system to recognize a diverse set of gestures, accommodating variations in signing styles and regional dialects. Additionally, the integration of deep neural networks enhances the system's ability to adapt and improve over time, ensuring continuous refinement and increased accuracy. Through the implementation of advanced technologies, the Sign Language Detection System presented in this paper represents a significant stride towards inclusivity and accessibility for the deaf and hard-of-hearing community. The system's effectiveness in recognizing and translating sign language gestures demonstrates its potential to revolutionize communication and foster a more inclusive and connected world

Project ID: 23-24/IT/G40

A PROJECT THESIS ON

Breast Cancer Detection Using CNN

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Acknowledgements

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 "Breast Cancer Detection System using CNN." Our sincere thanks go to Mr. Madhup Agrawal our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Dr. Agrawal's expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. Her dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Mr. Madhup Agrawal and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

The "Cancer Detection System by CNN" project represents a groundbreaking endeavor aimed at revolutionizing the early detection of breast cancer, a critical aspect in combating this prevalent global health challenge. Leveraging Convolutional Neural Networks (CNNs), the project focuses on developing a highly sophisticated and accurate breast cancer detection system. Breast cancer's complexity, characterized by diverse tumor appearances and tissue heterogeneity, presents significant obstacles to early diagnosis. This project addresses these challenges by employing CNNs to analyze medical images, particularly mammograms, with exceptional precision. The primary objective is to create a state-of-the-art breast cancer detection system capable not only of accurately identifying cancerous tissue but also classifying specific cancer subtypes. By analyzing extensive medical image datasets, the CNN-based system aims to contribute to personalized treatment plans, thereby improving patient outcomes. Built upon extensive research in medical image analysis and deep learning, the project integrates cutting-edge advancements to enhance early cancer detection and develop predictive models for personalized treatment strategies. The project's architecture is meticulously designed, incorporating various diagrams such as Data Flow Diagrams, Use Case Diagrams, and Entity-Relationship Diagrams to ensure robustness and efficiency. Additionally, a Gantt Chart is developed to manage project milestones, tasks, and deadlines effectively. In conclusion, the "Cancer Detection System by CNN" project signifies a transformative leap in breast cancer detection. By harnessing CNNs' capabilities, it holds promise for saving lives, reducing suffering, and advancing patient care, thereby making profound

Project ID: 23-24/IT/41

A PROJECT THESIS ON

CNN Based Framework For Detection Of Melanoma Skin Cancer

Submitted
for partial fulfillment of award of
Bachelor of Technology
in
Information Technology
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We hereby declare that the work presented in this report, entitled "CNN Based Framework for Detection of Melanoma Skin Cancer", 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 and sources for all the words, ideas, diagrams, graphics, 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 and sources.

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Acknowledgements

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 "CNN Based Framework for Detection of Melanoma Skin Cancer" Our sincere thanks go to Dr. Sunil Kumar, our esteemed project guide, for his invaluable guidance, expertise, and unwavering support. Dr. Sunil Kumar's insightful feedback and encouragement were crucial in shaping the direction of our research. His dedication to academic excellence and passion for the subject matter has been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

Skin cancer is an alarming disease for mankind, posing a significant health threat due to its rapid growth rate, particularly in the case of melanoma skin cancer. The necessity for early diagnosis has increased due to the high treatment costs and mortality rates associated with this aggressive form of skin cancer. Traditional methods of detecting cancer cells are typically performed manually by dermatologists, which can be time-consuming and may delay the initiation of treatment.In response to these challenges, this paper proposes an artificial skin cancer detection system leveraging image processing and machine learning techniques. The proposed system aims to improve the speed and accuracy of skin cancer diagnosis by automating the detection process.

The detection system begins with the segmentation of dermoscopic images, which are specialized images used to examine skin lesions. Segmentation isolates the affected skin cells from the surrounding tissue, facilitating focused analysis. Following segmentation, feature extraction techniques are employed to identify critical characteristics of the skin cells, such as texture, color, and shape, which are indicative of cancerous changes.To classify the extracted features and determine the presence of skin cancer, a deep learning-based method is utilized, specifically a convolutional neural network (CNN) classifier. CNNs are particularly well-suited for image classification tasks due to their ability to automatically and adaptively learn spatial hierarchies of features from input images. The effectiveness of the proposed system was evaluated using a publicly available dataset, achieving an accuracy of 89.5% in distinguishing cancerous lesions from non-cancerous ones. Additionally, the system demonstrated a training accuracy of 93.7%, indicating a high level of performance during the model training phase. These results suggest that the proposed artificial skin cancer detection system could significantly aid in the early diagnosis of skin

Project ID: 23-24/IT/G43

A PROJECT THESIS ON

Sign Language Generator

Submitted
for fulfillment of award of
Bachelor of Technology
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Information Technology
by

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Under the guidance of
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to

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May, 2024

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Declaration

We hereby declare that the work presented in this report, entitled "Sign Language Generator", 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 and 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 and sources.

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I extend my heartfelt gratitude to everyone who has contributed to the successful completion of this thesis on the Sign Language Generator project. This journey has been a collaborative effort, and I am deeply appreciative of the support, guidance, and inspiration provided by the following individuals and entities: I am immensely thankful to Ms. Tanu Gupta, my guide, for their unwavering support, insightful guidance, and invaluable expertise throughout the entire research and development process. Their encouragement and constructive feedback have been instrumental in shaping the direction of this project. A special thanks to the dedicated team of developers, designers, and researchers who worked tirelessly on the Sign Language Generator project. Each team member's commitment to excellence, creativity, and collaboration has played a pivotal role in bringing this innovative platform to fruition. I express my gratitude to Ajay Kumar Garg Engineering College, for providing the resources and environment conducive to research and learning. The academic foundation and opportunities offered by the institution have been instrumental in the successful execution of this project. This thesis represents the culmination of the collective efforts of many individuals, and I am sincerely thankful for the collaborative spirit that has characterized this endeavor.

Abstract

India hosts an estimated 18 million deaf individuals, facing communication challenges often underreported and underserved. While global sign language use abounds, efficient models converting audio to sign language are scarce. This paper explores the profound link between language and cognitive understanding, emphasizing the need for effective communication tools. The focus lies on the Indian Sign Language (ISL) Generator, bridging communication gaps and fostering inclusivity in education, healthcare, employment, and social interactions. Methodologically, the project employs tokenization, lemmatization, POS tagging, and ISL grammar conversion, culminating in visually represented output, emphasizing individual words through video representation. Results demonstrate successful communication gap reduction, empowerment of deaf individuals, and broader inclusivity. The ISL Generator represents a significant stride in breaking down communication barriers, with future directions including database expansion and enhanced adaptability. This project highlights language's transformative role, promoting inclusivity for individuals with hearing impairments.

Project ID: 23-24/IT/G44

A PROJECT THESIS ON

ICU TRANSPARENCY SYSTEM

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for the fulfillment of award of
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Under the guidance of
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to

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Declaration

We hereby declare that the work presented in this report, entitled "ICU Transparency 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 and 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 and sources.

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Dr Rahul Sharma
Professor & HOD
Department of Information Technology
Ajay Kumar Garg Engineering College

Place: Ghaziabad
Date: June 2024

Acknowledgements

Apart from our efforts, the success of the project depends largely on the encouragement and guidelines of many others.We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

We would like to express a deep sense of gratitude to Professor Rahul Sharma, our Head of the department, Dr. Sunil Kumar and Dr. Nitin Sharma,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.We would like to extend our sincerest gratitude to Mr. Pancham Singh for their guidance and supervision as well as for providing necessary information regarding the project and also for the support in completing the project.

Finally, We also extend our heartiest thanks to our parents, friends, and well-wishers for being with us and extending encouragement throughout the project.

Abstract

In the realm of healthcare, the Intensive Care Unit (ICU) stands as a critical space where patients' lives hang in the balance. For decades, this high-stakes environment has been plagued by opacity, miscommunication, and a lack of real-time oversight, leading to increased medical errors and an erosion of trust among stakeholders. These long-standing issues addressed by introducing the ICU Transparency System, a visionary solution that leverages the power of Al and deep learning. Historically, healthcare professionals and guardians of patients have been forced to navigate an intricate web of uncertainties. Medical errors, unmonitored vital signs, and medication mishaps have cast a shadow over patient care, while the absence of real-time access to critical medical data has hindered trust and collaboration. In response to these challenges, the ICU Transparency System comes forth as a beacon of change. This groundbreaking system integrates cutting-edge technology to offer real-time monitoring, precise medication tracking, and, crucially, transparency. Guardians and healthcare providers gain instant access to vital patient data, ensuring timely interventions and well-informed decision-making.

This system utilizes a network of sensors and monitors to continuously collect vital signs, physiological parameters, and other relevant data from patients. Through a user-friendly interface, healthcare providers can access this information in real-time, enabling prompt interventions and informed decision-making. Additionally, the system employs machine learning algorithms to analyze trends, detect abnormalities, and alert clinicians to potential risks, enhancing proactive care delivery.

Furthermore, the ICU Transparency System facilitates seamless communication among multidisciplinary teams by centralizing patient data, care plans, and updates. Collaborative features such as secure messaging, task assignments, and shared notes promote efficient teamwork and reduce the risk of miscommunication or oversight.

Project ID: 23-24/IT/GID 14

A PROJECT THESIS ON

Decentralized Drive

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
BY

Rakshit Nanda (2000270130134)
Sagar Srivastava (2000270130143)
Sajal Jain (2000270130146)
Videh Yadav (2000270130187)

Under the guidance of
Dr.Anupama Sharma

to

AJAY KUMAR GARG ENGINEERING
COLLEGE, GHAZIABAD

May, 2024

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Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "Decentralized Drive]", 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 and sources for all the words, ideas, diagrams, graphics, computer programs, experiments, and results that are not my original contributions. I have used quotation marks to identify verbatim sentences and given credit to the original authors and 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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Place: Ghaziabad
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Acknowledgements

I would like to express my sincere gratitude to my Head of the Department, Mr. Rahul Sharma, for his valuable guidance, encouragement, and support throughout the course of this project. His insights and expertise have been instrumental in shaping the direction of my work, and I am truly thankful for the opportunity to learn under his leadership. I am also indebted to my project mentor, Dr. Anupama Sharma, whose continuous assistance and constructive feedback have been invaluable in the development of this project. Her dedication to fostering a learning environment and his willingness to share his knowledge have significantly contributed to the success of this endeavor. I extend my thanks to the faculty members of the Information Technology for their unwavering support and for creating an atmosphere conducive to academic and research pursuits. I would also like to acknowledge the contributions of my peers and friends who provided assistance and encouragement throughout the project. Finally, I express my heartfelt gratitude to my family for their unending support and understanding during this challenging yet rewarding journey.

Abstract

As the digital landscape continues to expand exponentially, the need for efficient and secure data storage solutions becomes increasingly paramount. The **Decentralized Drive** addresses the challenges associated with Traditional centralized storage systems face challenges such as single points of failure, vulnerability to cyber threats, and a lack of scalability. This thesis explores the paradigm shift towards decentralized drives as a disruptive innovation that addresses these issues and heralds a new era in data storage.

The research delves into the fundamental principles of decentralized drives, investigating their architecture, underlying technologies, and the cryptographic protocols that ensure **data integrity** and **security**. A comparative analysis with centralized counterparts highlights the advantages of decentralization, emphasizing fault tolerance, resilience to attacks, and the potential for enhanced performance through distributed computing.

The study also examines the impact of decentralized drives on existing data management models, exploring the implications for businesses, governments, and individual users. Decentralized storage systems offer a democratized approach to data ownership and control, mitigating concerns related to data sovereignty and privacy.

Project ID: 23-24/IT/15

A PROJECT THESIS ON

FASHION RECOMMENDATION SYSTEM

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
BY

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Aviral Sharma (2000270130042)
Ritik Gurjar (2000270130137)

Under the guidance of
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to

AJAY KUMAR GARG ENGINEERING
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May 31, 2024

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Declaration

We hereby declare that the work presented in this report, entitled "[FASHION RECOMMENDATION 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 and 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 and sources.

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Acknowledgements

We extend our sincere appreciation to my project guide, **Ms Kamini Tanwar** . for her invaluable support and guidance during our final year B.Tech project, titled "**FASHION RECOMMENDATION SYSTEM**" her mentorship played a crucial role in shaping the project's direction, and we are grateful for her expertise and feedback. we would also like to thank the faculty members of the **IT Department** for providing the necessary resources and fostering a conducive academic environment. Our gratitude extends to our classmates and friends for their encouragement and valuable inputs throughout the project. We are deeply thankful to our families for their unwavering support and understanding. Their encouragement has been a constant source of motivation. Lastly, We acknowledge the divine guidance that provided us with the strength to successfully complete this project.To everyone who contributed to our academic journey, thank you for your invaluable support and collaborative effort.

Director
Ajay Kumar Garg Engg. College
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Abstract

The rising diversity, volume, and pace of fashion manufacturing pose a considerable challenge in the fashion industry, making it diffcult for customers to pick which product to purchase. In addition, fashion is an inherently subjective, cultural notion and an ensemble of clothing items that maintains a coherent style. In most of the domains in which Recomender Systems are developed (e.g., movies, e-commerce, etc.), the similarity evaluation is considered for recommendation. Instead, in the Fashion domain, compatibility is a critical factor. In addition, raw visual features belonging to product representations that contribute to most of the algorithm's performances in the Fashion domain are distinguishable from the metadata of the products in other domains. This literature review summarizes various Artifcial Intelligence (AI) techniques that have lately been used in recommender systems for the fashion industry. AI enables higher-quality recommendations than earlier approaches. This has ushered in a new age for recommender systems, allowing for deeper insights into user-item relationships and representations and the discovery patterns in demographical, textual, virtual, and contextual data.. This work seeks to give a deeper understanding of the fashion recommender system domain by performing a comprehensive literature study of research on this topic in the past 10 years, focusing on image-based fashion recommender systems taking AI improvements into account. The nuanced conceptions of this domain and their relevance have been developed to justify fashion domainspecifc characteristics.

Keywords Fashion recommender system · Artifcial Intelligence (AI) · Computer vision · Deep learning · Content-based image retrieval (CBIR)

Project ID: 23-24/IT/G10

A PROJECT THESIS ON

Fit-GO

Submitted
for the fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Nitesh Pandey (2000270130115)
Harshit Patel (2000270130074)

Under the guidance of
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to

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COLLEGE, GHAZIABAD

May 2024

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Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "FitGo", 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 and 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 and sources.

We 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, We shall be fully responsible and answerable.

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Acknowledgements

We would like to convey my heartfelt gratitude to Mr. Pancham Singh for his tremendous support and assistance in the completion of my project. We would also like to thank our HOD, Dr. Rahul Sharma, for providing us with this wonderful opportunity to work on a project with the topic "Fit-GO". The completion of the project would not have been possible without their help and insights. We would like to express our special thanks of gratitude to our friends who helped us in doing a lot of research and we came to know about so many new things, we are really thankful to them. Secondly, we would also like to thank our parents and college who helped us a lot in finalizing this project within the limited time frame. We have taken efforts in this project. However, it would not be possible without the kind support and help of many individuals and organizations. We would like to extend our sincere thanks to all of them.

Project ID: 23-24/IT/IT-11

A PROJECT THESIS ON

Decentralised Blood Distribution System

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
BY

Shashank (2000270130157)
Yash Bhushan Rajwal (2000270130192)
Tarun Kumar (2000270130173)

Under the guidance of
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to

AJAY KUMAR GARG ENGINEERING
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Declaration

We hereby declare that the work presented in this report, entitled "Decentralised Blood Distribution 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 and 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 and sources.

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This is to certify that the report entitled **Decentralised Blood Distribution System** submitted by **Shashank (2000270130157), Yash Bhushan Rajwal (2000270130192)** and **Tarun Kumar (2000270130173)** to the Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology, Computer Science, and Information Technology) is a bonafide record of the project work carried out by them under my guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of my knowledge.

Dr. Aditya Pratap Singh
Associate Professor
Department of Information Technology Ajay Kumar Garg Engineering College

Dr Rahul Sharma
Professor & HOD
Department of Information Technology Ajay Kumar Garg Engineering College

Place: Ghaziabad
Date: May 21, 2021

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Acknowledgements

We express our sincere gratitude to all individuals and organizations whose contributions have been instrumental in the development and implementation of the Decentralized Blood Distribution System. Special thanks to the innovative minds in the blockchain and technology community for their expertise and guidance in leveraging cutting-edge solutions for this project. The collaborative efforts of local blood centers, hospitals, and emergency responders have been invaluable in shaping a more responsive and efficient blood supply chain. We extend our appreciation to the donors whose generosity and commitment have played a crucial role in the success of this initiative. Your contributions not only support the development of this system but also contribute to the well-being of countless individuals in need of timely access to life-saving blood.

This acknowledgment is a testament to the collective effort of a diverse and dedicated community, without whom the realization of the Decentralized Blood Distribution System would not have been possible. Thank you for your unwavering support and commitment to advancing healthcare solutions.

Abstract

The **Decentralized Blood Distribution System** addresses the challenges associated with traditional centralized blood banks by leveraging emerging technologies to create a more efficient and responsive network. In this innovative system, blood supply is distributed across multiple decentralized nodes, ensuring a resilient and timely response to the dynamic demands of healthcare institutions and patients. Key features of this system include a blockchain-based platform that enhances **transparency, traceability**, and **security** throughout the blood supply chain. Smart contracts automate and streamline the donation, testing, storage, and distribution processes, reducing human errors and optimizing resource utilization. Decentralization fosters a collaborative ecosystem, allowing local blood centers, hospitals, and emergency responders to seamlessly communicate and share information. Real-time data analytics enable predictive modeling, ensuring that blood supplies are proactively managed to prevent shortages and wastage. Additionally, the system enhances communication with donors, providing them with timely information on the impact of their contributions and fostering a sense of community engagement.

Project ID: 23-24/IT/G12

A PROJECT THESIS ON

Health Help

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Vishal Mishra (2000270130189)
Yash Verma (2000270130194)
Yashaswi Srivastava (2000270130195)

Under the guidance of
Dr Veena Bharti

to

AJAY KUMAR GARG ENGINEERING
COLLEGE, GHAZIABAD

May, 2024

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Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled **"Health Help"**, 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 project report entitled **Health-Help** submitted by Radhika Aggarwal (2000270130127), Vishal Mishra (2000270130189), Yash Verma (2000270130194) and Yashaswi Srivastava (2000270130195) to the Ajay Kumar Garg Engineering College Ghaziabad in partial fulfillment for the award of **Bachelor Of Technology** from **Dr. A. P. J. Abdul Kalam Technical University, Lucknow**. This degree of B. Tech in (Information Technology) is a bonafide record of project work carried out by them under my/our supervision. The contents of this report, in full or in parts. have not been submitted to any other Institution or University for the award of any degree or diploma.

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Acknowledgements

Apart from our efforts, the success of the Health Help project depends largely on the encouragement and guidance of many others. We take this opportunity to express our deep gratitude to those who have been instrumental in the successful completion of this project.We wish to express our sincere gratitude to Professor Rahul Sharma, Head of the Information Technology Department at Ajay Kumar Garg Engineering College, for his insights and assistance. Our heartfelt thanks also go to Dr. Sunil Kumar and Dr. Nitin Sharma, the project coordinators, for their cordial support and for granting permission to use all the required equipment and necessary materials to complete the project.

Special thanks to Dr. Veena Bharti, our project guide and thesis supervisor, for her invaluable guidance, supervision, and support throughout this endeavor. Her insights and encouragement were crucial in navigating various challenges during the project. Finally, we extend our deepest thanks to our parents, friends, and well-wishers for their unwavering support and encouragement. We also acknowledge the collaboration and contributions of our team members and colleagues during various phases of the project.

We are sincerely grateful to everyone who contributed to the completion of our project, Health Help. Your support and guidance have been indispensable.

Abstract

The modern environment and human lifestyle have led to a variety of health issues that affect people today. When anyone is afflicted with an illness, they must see a doctor, which is both time consuming and costly. This research promotes a one-stop solution addressing prevalent challenges in healthcare. Focused on disease prediction, online appointment booking, and electronic medical record storage, the proposed platform offers a comprehensive solution to mitigate the complexities individuals face in accessing healthcare. Users can benefit from predictive disease identification based on entered age, gender, and symptoms, facilitating early intervention.

The platform further streamlines the appointment process, enabling users to schedule appointments with doctors. Additionally, it provides a centralized repository for users to store and manage their complete medical history and reports. The integration of self-reported behavioral data, coupled with machine learning, enhances the platform's ability to detect rare diseases.

Project ID: 23-24/IT/4

A PROJECT THESIS ON

Analysis of different objects using AI/ML

Submitted
for fulfillment of award of
Bachelor of Technology
in
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Under the guidance of

Dr. Anupama Sharma

to

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COLLEGE, GHAZIABAD

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We hereby declare that the work presented in this report, entitled "ANALYSIS OF DIFFERENT OBJECTS USING AI/ML", 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 and sources for all the words, ideas, diagrams, graphics, 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 and sources.

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Acknowledgements

We would like to express our deepest gratitude to our supervisor, **Dr. Anupama Sharma**, for their invaluable guidance and support throughout the research process. Their expertise and encouragement have been instrumental in shaping this research paper.

We also extend our appreciation to **Ajay Kumar Garg Engineering College, Ghaziabad** for providing the necessary resources and facilities for conducting this research.

Special thanks are due to our colleagues and friends for their constructive feedback and discussions, which contributed to the refinement of our ideas and analysis.

Last but not least, we are grateful to our families for their unwavering love, understanding, and encouragement throughout this journey.

Abstract

Object detection is a pivotal task in computer vision, and numerous libraries offer diverse methodologies for its implementation. This research paper provides a comprehensive comparative study of four prominent object detection libraries: ImageAI, GluonCV, Detectron2, and YOLOv3 TensorFlow. Each library is evaluated across three distinct datasets, namely COCO (Common Objects in Context), ImageNet, and the Open Images Dataset. The assessment encompasses various aspects, including methodology, capabilities, and limitations. ImageAI is highlighted for its simplicity in coding and support for image recognition, video detection, and custom training. However, limitations are observed in its recognition scope, predominantly confined to COCO's predefined set of 80 common objects. GluonCV emerges as a comprehensive library with state-of-the-art implementations, supporting a range of computer vision tasks. Detectron2, developed by Facebook's AI research team, exhibits flexibility and extensibility, providing support for applications like DensePose and Mask R-CNN. Nevertheless, a learning curve is associated with leveraging its extensive capabilities. YOLOv3, TensorFlow excels in speed and accuracy, particularly in detecting smaller objects. However, its specialization for certain use cases may limit its generalization across diverse scenarios. Each dataset introduces distinct challenges, ranging from controlled to diverse and less controlled environments.

This research aids practitioners and researchers in selecting an object detection library aligned with their specific project requirements. The findings underscore the importance of considering both the methodology and the compatibility of libraries with diverse datasets for robust and effective object detection solutions.

Project ID: 23-24/IT/G29

A PROJECT THESIS ON

DRIVE SMART

Submitted
for fulfillment of award of
Bachelor of Technology
in
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by

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Under the guidance of
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To

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May 2024

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Director
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We hereby declare that the work presented in this report, entitled "DRIVE SMART", 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 and 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 and sources.

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Acknowledgements

Apart from our efforts, the success of the project depends largely on the encouragement and guidelines of many others.We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

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Finally, We also extend our heartiest thanks to our parents, friends, and well-wishers for being with us and extending encouragement throughout the project.

Abstract

This project endeavors to design and implement an integrated Real-time Pothole Detection and Notification System complemented by Automatic Headlight Dimming technology, with a core emphasis on environmental sustainability. The multifaceted approach encapsulates paramount objectives aimed at enhancing road safety, optimizing infrastructure maintenance, reducing accidents. generating economic benefits, fostering environmental responsibility, ensuring user-friendly interfaces, and leveraging data analysis for continuous improvement. Through diligent pursuit of these goals, the project aspires to create a comprehensive, cost-effective, and sustainable solution that significantly enhances road safety, reduces accidents, promotes economic efficiency, and contributes to environmental conservation. The integrated system aims to propel transportation into a safer, more sustainable, and technologically efficient era, envisioning a cleaner and greener future.

Project ID: 23-24/IT/G2

A PROJECT THESIS ON

SMART AGRICULTURE SYSTEM USING IOT

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Aradhya Priyadarshi (2000270110021)
Harsh Tiwari (2000270130071)
Khushi Singh (2000270130087)

Under the guidance of
Mr. Sanjay Sonker

to

AJAY KUMAR GARG ENGINEERING
COLLEGE, GHAZIABAD

May 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "SMART AGRICULTURE SYSTEM USING 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. We have given due credit to the original authors and 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 and sources.

We 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, We shall be fully responsible and answerable.

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Acknowledgement

Apart from our efforts, the success of the project depends largely on the encouragement and guidelines of many others.We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

We would like to express a deep sense of gratitude to Professor Rahul Sharma, our Head of the department, Dr. Sunil Kumar and Dr. Nitin Sharma, 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.We would like to extend our sincerest gratitude to Mr. Sanjay Sonker for their guidance and supervision as well as for providing necessary information regarding the project and also for the support in completing the project.

Finally, We also extend our heartiest thanks to our parents, friends, and well-wishers for being with us and extending encouragement throughout the project.

Abstract

In response to the rising global demand for food production, there is an imperative need to integrate innovative technologies into conventional agricultural practices. This abstract introduces a transformative Smart Agriculture System poised to revolutionize crop management and bolster sustainability within the agricultural sector. Leveraging advanced sensor technologies, Internet of Things (IoT) devices, and artificial intelligence, our system establishes a seamless ecosystem. This cohesive infrastructure actively monitors, analyzes, and optimizes diverse facets of crop cultivation, providing farmers with unprecedented insights and tools for informed decision-making.

Our proposed system utilizes state-of-the-art sensor technologies to gather real-time data on soil conditions, weather patterns, and crop health. This data is then transmitted via IoT devices to a centralized platform where it is analyzed using sophisticated artificial intelligence algorithms. These algorithms can detect patterns and predict potential issues such as pest infestations, water shortages, or nutrient deficiencies long before they become critical problems.

In conclusion, the implementation of this advanced Smart Agriculture System is crucial for the future of farming. It represents a significant leap forward in our ability to produce food in a sustainable manner, meeting the needs of a growing population while protecting our natural resources. Through the convergence of cutting-edge technologies, we can transform traditional agriculture into a more efficient, productive, and environmentally friendly enterprise.

Project ID: 23-24/IT/G3

A PROJECT THESIS ON

Blockchain Based Crowdfunding Platform

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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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

We express our deep sense of gratitude to our RESPECTED HOD Prof. Rahul Sharma, Ajay Kumar Garg Engineering College for the valuable guidance and for permitting us to carry out this project. Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. We would like to show our greatest appreciation to Dr. Ruchi Gupta and other staff members. We cannot think them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

With Gratitude

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Abstract

The "Blockchain-Based Crowdfunding Platform" is a cutting-edge project designed to revolutionize the traditional crowdfunding landscape by harnessing the power of Blockchain technology. This platform aims to address the challenges faced by different sections of society in securing funding for their innovative projects, providing a decentralized and transparent solution for fundraising.The project leverages blockchain's inherent features such as immutability, transparency, and security to create a trustless and efficient crowdfunding ecosystem. Smart contracts, implemented on a blockchain network, automate the fundraising process, ensuring that funds are securely managed and disbursed only upon meeting predefined project milestones. This eliminates the need for intermediaries, reducing costs and enhancing accountability. The implementation of this blockchain-based crowdfunding platform holds the potential to redefine the way educational initiatives are funded.By promoting transparency, security, and efficiency, the project aims to empower students to turn their innovative ideas into reality while fostering a global community of supporters. Through this platform, the future of education and innovation intersects with the transformative capabilities of blockchain technology.

Project ID: 23-24/IT/09

A PROJECT THESIS ON

FundsAll - Blockchain based Crowdfunding Platform

Submitted
for fulfillment of award of
Bachelor of Technology
in
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by

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Acknowledgements

I would like to express my sincere gratitude to my Head of the Department, Dr. Rahul Sharma, for his valuable guidance, encouragement, and support throughout the course of this project. His insights and expertise have been instrumental in shaping the direction of my work, and I am truly thankful for the opportunity to learn under his leadership. I am also indebted to my project mentor, Dr. Nitin Sharma, whose continuous assistance and constructive feedback have been invaluable in the development of this project. His dedication to fostering a learning environment and his willingness to share his knowledge have significantly contributed to the success of this endeavor. I extend my thanks to the faculty members of Information Technology for their unwavering support and for creating an atmosphere conducive to academic and research pursuits. I would also like to acknowledge the contributions of my peers and friends who provided assistance and encouragement throughout the project. Finally, I express my heartfelt gratitude to my family for their unending support and understanding during this challenging yet rewarding journey.

Abstract

The "Blockchain-Based Crowdfunding Platform" is a cutting-edge project designed to revolutionize the traditional crowdfunding landscape by harnessing the power of Blockchain technology. This platform aims to address the challenges faced by different sections of society in securing funding for their innovative projects, providing a decentralized and transparent solution for fundraising.The project leverages blockchain's inherent features such as immutability, transparency, and security to create a trustless and efficient crowdfunding ecosystem. Smart contracts, implemented on a blockchain network, automate the fundraising process, ensuring that funds are securely managed and disbursed only upon meeting predefined project milestones. This eliminates the need for intermediaries, reducing costs and enhancing accountability. The implementation of this blockchain-based crowdfunding platform holds the potential to redefine the way educational initiatives are funded. By promoting transparency, security, and efficiency, the project aims to empower students to turn their innovative ideas into reality while fostering a global community of supporters. Through this platform, the future of education and innovation intersects with the transformative capabilities of blockchain technology.

Project ID: 23-24/IT/G08

A PROJECT THESIS ON

TagTrackr

Submitted
for fulfillment of award of
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Declaration

We hereby declare that the work presented in this report entitled "Tag-Trackr", 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 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 "TagTrackr". Our sincere thanks go to Dr Rashmi Sharma, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support, her insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

This project introduces a Smart Asset Tracking Solution that harnesses Near Field Communication (NFC) technology and integrates seamlessly with Google Maps for real-time asset monitoring and management. Utilizing NFC tags affixed to assets, the system enables quick and contactless identification, with unique identifiers stored in a centralized database. Leveraging NFC-enabled devices, such as smartphones, the solution interacts with tags to retrieve asset information effortlessly. Google Maps integration enhances geospatial visibility, displaying real-time asset locations on an intuitive interface through the Google Maps API. Key features include real-time tracking, customizable geofencing, historical data analysis, and a user-friendly interface for efficient asset management across diverse industries. The scalable and flexible nature of the solution accommodates various tracking needs, offering a comprehensive tool for optimizing operational efficiency and enhancing overall organizational productivity.

Project ID: 23-24/IT/G06

A PROJECT THESIS ON

HandPose Detection

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Chirag Gupta (2000270130045)

Under the guidance of

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to

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May , 2024

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Declaration

We hereby declare that the work presented in this report entitled "Hand-pose Detection", 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

I extend my heartfelt gratitude to everyone who has contributed to the successful completion of this thesis on the Handpose Detection project. This journey has been a collaborative effort, and I am deeply appreciative of the support, guidance, and inspiration provided by the following individuals and entities: I am immensely thankful to Mr Santosh Mishra, my guide, for their unwavering support, insightful guidance, and invaluable expertise throughout the entire research and development process. Their encouragement and constructive feedback have been instrumental in shaping the direction of this project. A special thanks to the dedicated team of developers, designers, and researchers who worked tirelessly on the HandPose Detection project. Each team member's commitment to excellence, creativity, and collaboration has played a pivotal role in bringing this innovative platform to fruition. I express my gratitude to Ajay Kumar Garg Engineering College, for providing the resources and environment conducive to research and learning. The academic foundation and opportunities offered by the institution have been instrumental in the successful execution of this project. This thesis represents the culmination of the collective efforts of many individuals, and I am sincerely thankful for the collaborative spirit that has characterized this endeavor.

Abstract

Hand pose detection is a fundamental component of human-computer interaction, enabling the recognition of intricate hand gestures and movements. This paper presents an innovative approach to hand pose detection leveraging the combined power of MediaPipe, a robust and versatile framework for real-time hand tracking, and TensorFlow, a widely adopted deep learning platform.

In this work, we describe a comprehensive pipeline for hand pose detection, which includes capturing and processing hand images with the MediaPipe library and employing a TensorFlow-based neural network model for pose classification. Our methodology combines the efficiency and accuracy of MediaPipe's hand tracking with the flexibility of TensorFlow's machine learning capabilities.

The system's key components include capturing and preprocessing hand images, extracting relevant keypoints from hand poses, and using a deep learning model to classify and recognize different hand poses. We demonstrate the efficacy of our approach through real-world applications such as sign language recognition, virtual reality interaction, and gesture-based control interfaces.

The integration of MediaPipe and TensorFlow provides an accessible and powerful solution for real-time hand pose detection, making it a valuable tool for a wide range of applications in fields such as human-computer interaction, augmented reality, and robotics. Our results showcase the potential of this approach in enabling intuitive and natural interaction between humans and machines.

Project ID: 23-24/IT/G5

A PROJECT THESIS ON

Pathfinder - Empowering Students Future

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Under the guidance of
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Declaration

We hereby declare that the work presented in this report, entitled "**Pathfinder: Empowering Students Future**", 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 and 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 and sources.

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Acknowledgements

We extend our heartfelt gratitude to everyone who has contributed to the successful completion of this thesis on the PathFinder: Empowering Students Future project. This journey has been a collaborative effort, and we are deeply appreciative of the support, guidance, and inspiration provided by the following individuals and entities.

We are immensely thankful to Ms Shikha Agarwal(Assistant Professor), our guide, for her unwavering support, insightful guidance, and invaluable expertise throughout the entire research and development process. Her encouragement and constructive feedback has been instrumental in shaping the direction of this project.

A special thanks to the dedicated team of developers, designers, and researchers who worked tirelessly on the PathFinder project. Each team member's commitment to excellence, creativity & collaboration has played a pivotal role in bringing this innovative platform to fruition.

We express our gratitude to Ajay Kumar Garg Engineering College, for providing the resources and environment conducive to research and learning. The academic foundation and opportunities offered by the institution have been instrumental in the successful execution of this project.

This thesis represents the culmination of the collective efforts of many individuals, and We are sincerely thankful for the collaborative spirit that has characterized this endeavor.

Project ID: 23-24/IT/G23

A PROJECT THESIS ON

Fake News Detection Using ML

Submitted
for the fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Kapish Goel (2000270130083)
Kunal Singh (2000270130093)
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Under the guidance of
Ms. Kamini Tanwar

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
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DECLARATION

We hereby declare that the work presented in this report entitled "Fake News Detection Using ML", 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 **FAKE NEWS DETECTION USING ML** submitted by **Harsh Srivastava (2000270130070), Kapish Goel (2000270130083), Kunal Singh (2000270130093), and Shailendra Pratap Singh (2000270110083)** to the Dr. A.P.J. Abdul Kalam Technical University, Lucknow, Uttar Pradesh in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Information Technology is a bonafide record of the project work carried out by him under my guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of my knowledge.

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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 "Fake News Detection Using ML". Our sincere thanks go to Ms. Kamini Tanwar our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Her expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. Her dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, we would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Ms. Kamini Tanwar and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

ABSTRACT

In today's digital age, the rapid spread of fake news poses a significant challenge to information integrity and societal well-being. To combat this pervasive issue, the "Fake News Detection using ML" project leverages Artificial Intelligence (AI) and Machine Learning (ML) techniques to develop an effective solution for detecting fake news within news articles.

The project's scope encompasses diverse aspects, including data collection and preprocessing, feature engineering using Natural Language Processing (NLP) techniques, and the implementation of machine learning algorithms for text classification. The primary objective is to create a highly accurate model capable of distinguishing between legitimate news and fabricated information.

The project adopts an interdisciplinary approach, combining expertise in AI, ML, NLP, ethics, and media literacy, with the goal of making a substantial research contribution to the field of misinformation detection. "Fake News Detection using ML" aspires to contribute to a more informed society, reduce polarization, and foster a healthier information ecosystem.

Project ID: 23-24/IT/G25

Malaria Detection System using Learning Algorithm

Project Thesis

Submitted in Partial Fulfillment of the Requirements for the Degree of

Bachelor of Technology
in
Information technology

by

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Esha Kushwaha(2000270130060)
Aniket Verma (2000270130022)

Under the Supervision of
Dr. Nandita Goyal

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
DR. A.P.J ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW
May, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

DECLARATION

We hereby declare that the work presented in this report entitled "MALARIA 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 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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Dr Rahul Sharma
Professor & HOD
Department of Information Technology Ajay Kumar Garg Engineering College

Place: Ghaziabad
Date: May 24, 2024

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Project ID: 23-24/IT/G-27

Histopathological Skin Disease Detection

A Thesis Report

n Partial Fulfillment of the Requirements for the Degree of

Bachelor of Technology
in
Information Technology

by

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LAAVANYA YADAV(200027130095)
RONIT MADAAN(2000270130140)
ROHAN AGRWAL(2000270130138)
AVIRL GOEL(2000270130041)

Under the Supervision of
Mr Santosh Mishra

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD
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We hereby declare that the work presented in this report, entitled " Histopathological Skin Disease Detection", 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 and 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 and sources.

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This is to certify that the report entitled **Histopathological Skin Disease Detection** submitted by **Agrim Gupta (2000270130013), Laavanya Yadav(2000270130095), Aviral Goel(2000270130041), Rohan (2000270130138)**and **Ronit Madaan (2000270130140)** to the Dr.A.P.J. Abdul Kalam Technical University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Information Technology 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, to the best of my knowledge.

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Acknowledgements

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 "Histopathological Skin Disease Detection." Our sincere thanks go to Mr. Santosh Mishra, our esteemed project guide, for his invaluable guidance, expertise, and unwavering support. His insightful feedback and encouragement were crucial in shaping the direction of our research.
We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.
Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work.

We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

Skin diseases pose a significant health challenge worldwide, necessitating accurate and timely diagnosis for effective treatment. In this project, we present a novel approach to histopathological skin disease detection leveraging advanced image analysis techniques. The proposed system employs deep learning algorithms to analyze microscopic images of skin tissue samples, providing automated and reliable identification of various dermatological conditions. Our methodology involves the use of convolutional neural networks (CNNs) to extract intricate features from histopathological images, enabling the model to discern subtle patterns indicative of different skin diseases. A comprehensive dataset comprising diverse skin conditions is employed for training and validation, ensuring the robustness and generalization of the model. Transfer learning is applied to capitalize on pre-existing knowledge within the neural network architecture, enhancing the model's ability to recognize a wide spectrum of skin disorders

Project ID: 23-24/IT/G29

A PROJECT THESIS ON

DRIVE SMART

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

Kartikeya Patel (2000270130084)
Manas Mishra (2000270130099)
Hina Varshney (2000270130079)

Under the guidance of
Mr Sanjay Sonkar

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May 2024

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Declaration

We hereby declare that the work presented in this report, entitled "DRIVE SMART", 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 and 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 and sources.

We 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, We shall be fully responsible and answerable.

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Ghaziabad

Acknowledgements

Apart from our efforts, the success of the project depends largely on the encouragement and guidelines of many others.We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

We would like to express a deep sense of gratitude to Professor Rahul Sharma, our Head of the department, Dr. Sunil Kumar and Dr. Nitin Sharma, 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.We would like to extend our sincerest gratitude to Mr Sanjay Sonkar for their guidance and supervision as well as for providing necessary information regarding the project and also for the support in completing the project.

Finally, We also extend our heartiest thanks to our parents, friends, and well-wishers for being with us and extending encouragement throughout the project.

Project ID: 23-24/IT/G45

A PROJECT THESIS ON

Detection of Crop Health with Accurate Insight and Appropriate Medication

Submitted
in fulfilment of the award of
Bachelor of Technology
in
Information Technology
by

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Avinash Kumar Singh (2000270130040)
Deepankar Singh (2000270130047)
Deepanshu Bhutani (2000270130048)

Under the guidance of
Dr. Rashmi Sharma

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
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Ghaziabad

Declaration

We hereby declare that the work presented in this report entitled "Detection of Crop Health with accurate insight and appropriate medication", 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, 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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Certificate

This is to certify that the report entitled **Detection of Crop Health with Accurate Insight and Appropriate Medication** submitted by **Aman Verma (2000270130016), Avinash Kumar Singh (20002701 30040), Deepankar Singh (2000270130047)** and **Deepanshu Bhuta -ni (2000270130048)** to the Dr. A.P.J. Abdul Kalam Technical Univer-sity, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Tech-nology) 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, to the best of my knowledge.

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Place: Ghaziabad
Date: May 27, 2024

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Acknowledgements

We would like to express our heartfelt gratitude to Dr. Rahul Sharma, Head of the Department of Information Technology, for his invaluable guidance, support, and encouragement throughout the course of our final year B.Tech project. His expertise and insights have been instrumental in shaping our project and enriching our learning experience.

We also extend our sincere appreciation to Dr. Rashmi Sharma, our project guide, for her unwavering guidance, patience, and constructive feedback. Her mentorship has been indispensable in steering us through the various stages of our project development.

We are grateful to both of them for their constant encouragement, and valuable suggestions, and for providing us with the resources necessary to successfully complete our project.

Abstract

Major population of India is dependent on agriculture and it plays an important role in the economy of India. The yield of crops is low for Indian farmers as compared to other country's farmers and the main reason for low crop yield was not proper identification of diseases of crops. Mainly diseases are caused by insects, bacteria and fungi and farmers use traditional techniques which is not very efficient with any type of fertiliser, which also impacts the production of crops. Our system uses state-of-the-art machine learning technology, which incorporates advanced algorithms and image processing techniques, to accurately identify crop diseases and recommend appropriate medication. Machine learning performs complex tasks with high accuracy without human intervention to detect crop diseases. The proposed model uses a data set that includes images of leaves such as tomatoes, apples, and soybeans. Previous works on the detection of crop health use VGG-16, VGG-19 and many more algorithms but we use ResNets, which improves the efficiency of deep neural networks with more neural layers while minimizing the percentage of error.

Project ID: 23-24/IT/G50

A PROJECT THESIS ON

Decentralized Crowdfunding Platform Using Blockchain

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Vikram Pratap (20002701300188)

Under the guidance of
Ms Priti Choudhary

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May 2024

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Ghaziabad

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We hereby declare that the work presented in this report entitled "DE-CENTRALIZED CROWDFUNDING", 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 **DECENTRALIZED CROWD-FUNDING USING BLOCKCHAIN TECHNOLOGY** submitted by **Mahima Varun (2000270130097), Sonia Devi (2000270130169), Utkarsh Jaiswal (2000270130180)** and **Vikram Pratap (2000270130188)** to the Dr. A.P.J Abdul Kalam Technical University, Lucknow n partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Information Technology 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, to the best of my knowledge.

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Dr Rahul Sharma
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Place: Ghaziabad
Date: May , 2024

Director
Ajay Kumar Garg Engg. College
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Acknowledgements

Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. I'm grateful to our respected Head of the Department Dr. Rahul Sharma, for allowing me to use the facilities available. We would like to show our greatest appreciation to Ms. Priti Choudhary and other Faculty members. We cannot thank them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Abstract

After the COVID-19 pandemic hit across the globe, the economy of most countries got tampered. Since then, online engagement is at its peak and people discovered social media as a new weapon to invest and promote their business and skills. This led to the advancement of a potential concept of funding, known as crowdfunding. Crowdfunding is an online fundraising system that started as a route for common society to give modest quantities of cash to help innovative people, start-ups, NGOs, charity to fund their activities. Crowdfunding is a novel technique to directly generate cash and obtain investors for new commercial ventures from the public, rather than generating funds in traditional ways, such as leasing money from banks or pitching project ideas in front of investors. Crowdfunding websites connect investors and artists on a platform that makes investors easily accessible.Blockchain as we know is the foundation of cryptocurrency. In the future most technologies around the world are expected to use blockchain to make secure online transactions Blockchain-based crowdfunding offers an alternative to the traditional method of raising capital for businesses. Typically, when creators need money for their initiatives, they must develop marketing plans to draw in individuals or organizations. The three-tier structure of current crowdfunding approaches includes a project creator who proposes the idea of the project to be funded, an organization or investor who invests in the project, and a platform that combines these two elements to create a successful company..

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Abstract

After the COVID-19 pandemic hit across the globe, the economy of most countries got tampered. Since then, online engagement is at its peak and people discovered social media as a new weapon to invest and promote their business and skills. This led to the advancement of a potential concept of funding, known as crowdfunding. Crowdfunding is an online fundraising system that started as a route for common society to give modest quantities of cash to help innovative people, start-ups, NGOs, charity to fund their activities. Crowdfunding is a novel technique to directly generate cash and obtain investors for new commercial ventures from the public, rather than generating funds in traditional ways, such as leasing money from banks or pitching project ideas in front of investors. Crowdfunding websites connect investors and artists on a platform that makes investors easily accessible.Blockchain as we know is the foundation of cryptocurrency. In the future most technologies around the world are expected to use blockchain to make secure online transactions Blockchain-based crowdfunding offers an alternative to the traditional method of raising capital for businesses. Typically, when creators need money for their initiatives, they must develop marketing plans to draw in individuals or organizations. The three-tier structure of current crowdfunding approaches includes a project creator who proposes the idea of the project to be funded, an organization or investor who invests in the project, and a platform that combines these two elements to create a successful company..

Project ID: 23-24/IT/4

A PROJECT THESIS ON

Analysis of different objects using AI/ML

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
BY

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Mihir Gupta (2000270130103)
Mohit Singh (2000270130105)
Saiyam Mishra (2000270130144)

Under the guidance of
Dr. Anupama Sharma

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
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Declaration

We hereby declare that the work presented in this report, entitled 'ANALYSIS OF DIFFERENT OBJECTS USING AI/ML', 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 and sources for all the words, ideas, diagrams, graphics, 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 and sources.

We affirm that no portion of our 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, We shall be fully responsible and answerable.

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This is to certify that the report entitled **ANALYSIS OF DIFFERENT OBJECTS USING AI/ML** submitted by **Mamu Shukla** (2000270130100), **Mihir Gupta** (2000270130103), **Mohit Singh** (2000270130105), **Saiyam Mishra** (2000270130144) to the Dr. A.P.J. Abdul Kalam Technical University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Information Technology is a bonafide record of the project work carried out by our guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of our knowledge.

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Place: Ghaziabad
Date: May, 2024

Director
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Acknowledgements

We would like to express our deepest gratitude to our supervisor, **Dr. Anupama Sharma**, for their invaluable guidance and support throughout the research process. Their expertise and encouragement have been instrumental in shaping this research paper.

We also extend our appreciation to **Ajay Kumar Garg Engineering College, Ghaziabad** for providing the necessary resources and facilities for conducting this research.

Special thanks are due to our colleagues and friends for their constructive feedback and discussions, which contributed to the refinement of our ideas and analysis.

Last but not least, we are grateful to our families for their unwavering love, understanding, and encouragement throughout this journey.

Abstract

Object detection is a pivotal task in computer vision, and numerous libraries offer diverse methodologies for its implementation. This research paper provides a comprehensive comparative study of four prominent object detection libraries: ImageAI, GluonCV, Detectron2, and YOLOv3 TensorFlow. Each library is evaluated across three distinct datasets, namely COCO (Common Objects in Context), ImageNet, and the Open Images Dataset. The assessment encompasses various aspects, including methodology, capabilities, and limitations. ImageAI is highlighted for its simplicity in coding and support for image recognition, video detection, and custom training. However, limitations are observed in its recognition scope, predominantly confined to COCO's predefined set of 80 common objects. GluonCV emerges as a comprehensive library with state-of-the-art implementations, supporting a range of computer vision tasks. Detectron2, developed by Facebook's AI research team, exhibits flexibility and extensibility, providing support for applications like DensePose and Mask R-CNN. Nevertheless, a learning curve is associated with leveraging its extensive capabilities. YOLOv3, TensorFlow excels in speed and accuracy, particularly in detecting smaller objects. However, its specialization for certain use cases may limit its generalization across diverse scenarios. Each dataset introduces distinct challenges, ranging from controlled to diverse and less controlled environments.

This research aids practitioners and researchers in selecting an object detection library aligned with their specific project requirements. The findings underscore the importance of considering both the methodology and the compatibility of libraries with diverse datasets for robust and effective object detection solutions.

Project ID: 23-24/IT/G08

A PROJECT THESIS ON

TagTrackr

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Gaurav Verma (2000270130062)
Hariom Singh (2000270130067)

Under the guidance of
Dr. Rashmi Sharma

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May , 2024

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Declaration

We hereby declare that the work presented in this report entitled "Tag-Trackr", 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 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 "TagTrackr". Our sincere thanks go to Dr Rashmi Sharma, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support, her insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

This project introduces a Smart Asset Tracking Solution that harnesses Near Field Communication (NFC) technology and integrates seamlessly with Google Maps for real-time asset monitoring and management. Utilizing NFC tags affixed to assets, the system enables quick and contactless identification, with unique identifiers stored in a centralized database. Leveraging NFC-enabled devices, such as smartphones, the solution interacts with tags to retrieve asset information effortlessly. Google Maps integration enhances geospatial visibility, displaying real-time asset locations on an intuitive interface through the Google Maps API. Key features include real-time tracking, customizable geofencing, historical data analysis, and a user-friendly interface for efficient asset management across diverse industries. The scalable and flexible nature of the solution accommodates various tracking needs, offering a comprehensive tool for optimizing operational efficiency and enhancing overall organizational productivity.

Project ID: 23-24/IT/G3

A PROJECT THESIS ON

Blockchain Based Crowdfunding Platform

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Devansh Saxena (2000270130051)
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Ayush Sharma (2000270310046)

Under the guidance of
Dr. Ruchi Gupta

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

June, 2024

Director
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Declaration

We hereby declare that the work presented in this report entitled **"Blockchain based Crowdfunding Platform"**, 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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Name : Devansh Saxena
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Certificate

This is to certify that the project report entitled **Blockchain based Crowdfunding Platform** submitted by Devansh Sahani (2000270130050), Devansh Saxena (2000270130051), Dinesh Bhaskara Bhatta (2000270130055), Ayush Sharma (2000270310046) to the Ajay Kumar Garg Engineering College Ghaziabad in partial fulfillment for the award of the This degree of B. Tech in (Information Technology) is a bona fide record of project work carried out by him/her under my/our supervision. The contents of this report, in full or in parts, have not been submitted to any other Institution or University for the award of any degree or diploma.

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Dr Rahul Sharma
Professor & HOD
Department of Information Technology Ajay Kumar Garg Engineering College

Place: Ghaziabad
Date: June, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Acknowledgements

We express our deep sense of gratitude to our RESPECTED HOD Prof. Rahul Sharma, Ajay Kumar Garg Engineering College for the valuable guidance and for permitting us to carry out this project. Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. We would like to show our greatest appreciation to Dr. Ruchi Gupta and other staff members. We cannot think them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

With Gratitude

Devansh Sahani (2000270130050)
Devansh Saxena (2000270130051)
Dinesh Bhaskara Bhatta (2000270130055)
Ayush Sharma (2000270310046)

Abstract

The "Blockchain-Based Crowdfunding Platform" is a cutting-edge project designed to revolutionize the traditional crowdfunding landscape by harnessing the power of Blockchain technology. This platform aims to address the challenges faced by different sections of society in securing funding for their innovative projects, providing a decentralized and transparent solution for fundraising.The project leverages blockchain's inherent features such as immutability, transparency, and security to create a trustless and efficient crowdfunding ecosystem. Smart contracts, implemented on a blockchain network, automate the fundraising process, ensuring that funds are securely managed and disbursed only upon meeting predefined project milestones. This eliminates the need for intermediaries, reducing costs and enhancing accountability. The implementation of this blockchain-based crowdfunding platform holds the potential to redefine the way educational initiatives are funded.By promoting transparency, security, and efficiency, the project aims to empower students to turn their innovative ideas into reality while fostering a global community of supporters. Through this platform, the future of education and innovation intersects with the transformative capabilities of blockchain technology.

Project ID: 23-24/IT/G2

A PROJECT THESIS ON

SMART AGRICULTURE SYSTEM USING IOT

Submitted
for fulfillment of award of
Bachelor of Technology
in
Information Technology
by

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Harsh Tiwari (2000270130071)
Khushi Singh (2000270130087)

Under the guidance of
Mr. Sanjay Sonker

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May 2024

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Declaration

We hereby declare that the work presented in this report, entitled "SMART AGRICULTURE SYSTEM USING 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. We have given due credit to the original authors and 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 and sources.

We 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, We shall be fully responsible and answerable.

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Acknowledgement

Apart from our efforts, the success of the project depends largely on the encouragement and guidelines of many others.We take this opportunity to express our gratitude to the people who have been instrumental in the successful completion of this project.

We would like to express a deep sense of gratitude to Professor Rahul Sharma, our Head of the department, Dr. Sunil Kumar and Dr. Nitin Sharma, 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.We would like to extend our sincerest gratitude to Mr. Sanjay Sonker for their guidance and supervision as well as for providing necessary information regarding the project and also for the support in completing the project.

Finally, We also extend our heartiest thanks to our parents, friends, and well-wishers for being with us and extending encouragement throughout the project.

Project ID: 23-24/IT/G1

A PROJECT THESIS ON

Stock Analysis

Submitted
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Bachelor of Technology
in
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Under the guidance of

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Mr. Pankaj Singh

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We hereby declare that the work presented in this report entitled "STOCK ANALYSIS", 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, graph- ics, 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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ACKNOWLEDGEMENT

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 "Stock Analysis". Our sincere thanks go to Dr Rahul Sharma and Mr Pankaj Singh our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Her expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. Her dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. Last but not least, we would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors. This project would not have been possible without the support and guidance of Dr Rahul Sharma and Mr Pankaj Singh and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Project ID: 23-24/IT/G06

A PROJECT THESIS ON

HandPose Detection

Submitted
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Under the guidance of

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to

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Declaration

We hereby declare that the work presented in this report entitled "Hand-pose Detection", 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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Dr Rahul Sharma
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Abstract

Hand pose detection is a fundamental component of human-computer interaction, enabling the recognition of intricate hand gestures and movements. This paper presents an innovative approach to hand pose detection leveraging the combined power of MediaPipe, a robust and versatile framework for real-time hand tracking, and TensorFlow, a widely adopted deep learning platform.

In this work, we describe a comprehensive pipeline for hand pose detection, which includes capturing and processing hand images with the MediaPipe library and employing a TensorFlow-based neural network model for pose classification. Our methodology combines the efficiency and accuracy of MediaPipe's hand tracking with the flexibility of TensorFlow's machine learning capabilities.

The system's key components include capturing and preprocessing hand images, extracting relevant keypoints from hand poses, and using a deep learning model to classify and recognize different hand poses. We demonstrate the efficacy of our approach through real-world applications such as sign language recognition, virtual reality interaction, and gesture-based control interfaces.

The integration of MediaPipe and TensorFlow provides an accessible and powerful solution for real-time hand pose detection, making it a valuable tool for a wide range of applications in fields such as human-computer interaction, augmented reality, and robotics. Our results showcase the potential of this approach in enabling intuitive and natural interaction between humans and machines.

Project ID: 23-24/CSIT/G-14

A PROJECT THESIS ON

Mental Health Detection System

Submitted
for fulfillment of award of
Bachelor of Technology
in
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Under the guidance of

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We hereby declare that the work presented in this report, entitled "MENTAL HEALTH 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 and 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 and sources.

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Acknowledgement

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 "Mental Health Detection System". Our sincere thanks go to Ms. Mrignainy Kansal, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support, her insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

Social media has become a significant factor in the development of mental diseases, with the potential to significantly impact people's lives. This study explores the use of computational approaches and deep learning models to identify linguistic indicators suggestive of mental diseases such as depression, anorexia, and self-harm. The study also highlights the complex relationship between emotions and the underlying causes of mental diseases, emphasizing the need for understanding the emotional triggers. The research demonstrates the effectiveness of machine learning models in detecting anxiety and depression on websites like Twitter, Facebook, and Reddit, particularly during the COVID-19 pandemic. The study highlights the potential of data mining techniques for automating the diagnosis of Social Network Mental Disorders among social media users, aiming to improve lives and address the rising incidence of mental illnesses in society.

The field of mental health detection systems has witnessed significant advancements in recent years, fueled by the convergence of machine learning techniques, digital health technologies, and increased awareness of mental health issues. This paper provides a comprehensive review of research efforts aimed at developing and improving mental health detection systems. Beginning with an overview of the prevalence and impact of mental health disorders, the paper explores the challenges associated with traditional diagnosis and treatment methods. It then delves into the emergence of computational approaches, particularly machine learning and artificial intelligence, as promising tools for early detection, intervention, and personalized treatment of mental health disorders. The paper discusses various data sources utilized in mental health research, including social media data, electronic health records, wearable sensor data, and neuroimaging data, highlighting their potential for capturing valuable insights into individuals' mental health status. Furthermore, the paper examines different computational techniques employed in mental health detection systems, such as deep learning, natural language processing, and pattern recognition algorithms, along with their applications in tasks s

Project ID: 23-24/CSIT/G1

A PROJECT THESIS ON

Predicting Performance of Advertisement

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Under the guidance of
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Declaration

We hereby declare that the work presented in this report, entitled "PREDICTING PERFORMANCE OF ADVERTISEMENT", 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 and sources for all the words, ideas, diagrams, graphics, 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 and sources.

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Acknowledgements

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 "Predicting Performance of Advertisements."

Our sincere thanks go to Dr. Anupama Sharma, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Dr. Sharma's expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. Her dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group.
We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors.
This project would not have been possible without the support and guidance of Dr. Anupama Sharma and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

In the current digital era, advertising has grown to be both commonplace and essential, and companies are always looking for ways to maximize the impact of their online advertising campaigns. This abstract presents a novel method for achieving this objective by applying machine learning techniques. Through the prediction of two crucial metrics—Click-Through Rates (CTR) and Conversion Rates—this initiative seeks to provide marketers with insightful data regarding the effectiveness of their ads. Sophisticated machine learning models can predict the chance that a person will click on an advertisement and then convert it by analyzing past data. By utilizing algorithms like neural networks, decision trees, and regression models, this predictive framework guarantees that advertising campaigns are customized to target the most responsive demographic.

This research provides advertisers with a level of knowledge never before seen by analyzing historical ad data, user interactions, and a detailed examination of ad content features. With the use of these insights, marketers can very precisely tune their campaigns so that the correct advertisement is shown to the right target at the right moment.

Advertising campaigns are a necessary component of modern corporate strategies. Furthermore, advertising has a significant impact on an organization's capacity for growth and visibility. This study investigates a data-driven approach that uses machine learning algorithms to forecast the efficacy of advertisements. We will need less training data when employing a Naive Bayes classifier, which emphasizes the significance of leveraging data to influence decisions in the advertising industry and create prospects for greater research and practical implementation in enterprises. Through the analysis of pertinent elements and historical data, the model will forecast metrics such as click-through rates (CTR) and conversion rates. The goal is to perform Naive Bayes prediction in the data set which provides businesses with actionable insights to optimize their ad campaigns and improve marketing ROI.

Project ID: 23-24/CSIT/G02

A PROJECT THESIS ON

Cloud Storage Security Using Blockchain

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for fulfillment of award of
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Declaration

We hereby declare that the work presented in this report entitled "CLOUD STORAGE SECURITY 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.

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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 Information Technology Department **Prof. Rahul Sharma**, 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 **"Mrs. Shikha Agarwal (Assistant Professor)**", Department of Information Technology, Ajay Kumar Garg Engineering College, Ghaziabad for his/her constant support, guidance, encouragement and much needed motivation. His/Her sincerity, thoroughness and perseverance has been a constant source of inspiration for us.

Last but not the 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 completion of the project.

Director
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Abstract

Cloud Storage Security Using Blockchain presents an innovative approach to enhancing data security in cloud storage systems through seamless integration with blockchain technology. This project aims to achieve the highest level of data security by allowing users to securely upload files using a client application with the option to provide custom encryption keys. The Advanced Encryption Standard (AES) algorithm encrypts selected files upon user request, creating a buffered, encrypted file for easier handling and transmission. The InterPlanetary File System (IPFS), a decentralized and distributed file storage technology, receives these encrypted files and assigns them a unique IPFS hash. This hash, along with file metadata, is stored in a blockchain-based smart contract mapped to user addresses, ensuring users' full control over their stored files. The client application enables users to access and retrieve their files securely by retrieving them from IPFS and decrypting them using the supplied encryption key. This project offers a decentralized, secure, and user-centric approach to file management, enhancing cloud storage security by leveraging blockchain, robust encryption, and decentralized storage technologies to ensure data confidentiality and integrity throughout storage and retrieval processes."

Project ID: 23-24/CSIT/G3

A PROJECT THESIS ON

Stock Market Price Prediction

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for fulfillment of award of
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Computer Science and Information Technology
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Ayan Ahmed (2000270110027)
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We hereby declare that the work presented in this report, entitled "STOCK MARKET PRICE PREDICTION", 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 and sources for all the words, ideas, diagrams, graphics, 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 and sources. We affirm that no portion of our 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, We shall be fully responsible and answerable.

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This is to certify that the report entitled **Stock Market Price Prediction** submitted by **Aquib Mahmood (2000270110020), Anurudhh Sharma (2000270110016) , Ayan Ahmed (2000270110027)** and **Ayush Kumar Shukla (2000270110029)** to the Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology/ Computer Science and Information Technology) 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, to the best of my knowledge.

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Professor & HOD
Department of Information Technology
Ajay Kumar Garg Engineering College

Place: Ghaziabad
Date: May 25, 2024

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Ajay Kumar Garg Engg. College
Ghaziabad

Acknowledgements

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 "Stock Market Price Prediction."

Our sincere thanks go to Dr. Nandita Goyal, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Dr. Goyal's insightful feedback and encouragement were crucial in shaping the direction of our research. Her dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group.

We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

In Stock Market Prediction, the aim is to predict the future value of the financial stocks of a company. The recent trend in stock market prediction technologies is the use of machine learning which makes predictions based on the values of current stock market indices by training on their previous values. Machinelearning itself employs different models to make prediction easier and authentic. The paper focuses on the use of Regression and LSTM based Machine learning to predict stock values. Factors considered are open, close, low, high and volume.

Accurate prediction of stock market returns is a very challenging task due to volatile and non-linear nature of the financial stock markets. With the introduction of artificial intelligence and increased computational capabilities, programmed methods of prediction have proved to be more efficient in predicting stock prices. In this work, Artificial Neural Network and Random Forest techniques have been utilized for predicting the next day closing price forfive companies belonging to different sectors of operation. The financial data: Open, High, Low and Close prices of stock are used for creating new variables which are used as inputs to the model. The models are evaluated using standard strategic indicators: RMSE and MAPE. The low values of these two indicators show that the models are efficient in predicting stock closing price

Project ID: 23-24/CSIT/G4

A PROJECT THESIS ON

Strong Box

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

Ayushi Srivastava (2000270110030)
Bhawna Gangwar (2000270110032)
Ambuj Prajapati (2000270110005)
Amisha Yadav (2000270110006)

Under the guidance of
Dr. Shivani Agarwal

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

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Declaration

We hereby declare that the work presented in this report, entitled "Strong Box", 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 and 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 and 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

Apart from my efforts, the success of the project depends largely 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 Rahul Sharma, the our Head of the department, Dr. Rashmi Sharma and Mr. Sumit Sharma, 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 Dr. Shivani Agarwal 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

Steganography, the art of concealed information transmission, has evolved from ancient techniques of hiding messages within plain sight to modern cryptographic practices. Historically,secret messages were conveyed through hidden links, but with the risk of decipherment. To address this, coded languages were introduced for exclusive sender-receiver comprehension, known as cryptography. Cryptography conceals messages in a coded form, known as cipher-text, and employs various algorithms. The Blowfish algorithm is one such cryptographic method, offering robust security with its flexible key size. This research paper explores an innovative approach that combines image-based steganography and the Blowfish algorithm to enhance the security of transmitted messages. In this method, messages are hidden within images, acting as covers, rendering them visible to all but keeping the embedded information imperceptible. The use of image steganography leverages the ubiquity of digital media, making it an effective choice for secure communication. The process begins by converting the cover image into RGB values. The message is encoded into binary form and stored in the least significant bits of the RGB values. This research not only demonstrates the efficacy of combining image-based steganography with cryptography but also emphasizes the need for continuous innovation in secure message transmission as technology evolves and threats persists.

Project ID: 23-24/CSIT/G5

A PROJECT THESIS ON

BTECH PIZZA WALA

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Km. Sanyogita Singh (2100270119006)

Under the guidance of
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to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

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Acknowledgements

First and foremost, we would like to express our gratitude to our Mentor, Prof. Dr. Sunil Kumar, who was a continual source of inspiration. He pushed us to think imaginatively and urged us to do this project without hesitation. His vast knowledge, extensive experience, and professional competence in Computer Science enabled us to successfully accomplish this project. This endeavour would not have been possible without his help and supervision. We could not have asked for a finer mentor in our studies. This initiative would not have been a success without the contributions of each and every individual. We were always there to cheer each other on, and that is what kept us together until the end.

I'd like to thank Our college AJAY KUMAR GARG ENGINEERING COLLEGE OF Dr. A. P. J. ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW for providing me with the opportunity to work on the project (BTECH PIZZA WALA). Last but not least, I would like to express my gratitude to my family, siblings, and friends for their invaluable assistance, and I am deeply grateful to everyone who has contributed to the successful completion of this project.

Abstract

BTECH PIZZA WALA is an online website where first we create our own freshly baked pizzas and deliver it to our customers at different places in the city. We will deliver our own food items as well as food items from other restaurants like burger king, McDonalds, Subway etc. of which we will be official delivery partners. We are also allowing our customers to add different food items from different restaurants at the same time in a single order and we will be trying to deliver whole order at the same time using a single delivery person depending upon the distance between different restaurants. We will also be offering our customers to order takeaway food from a restaurant that is some distance away so that they do not have to wait for the time it takes to prepare the food.

Project ID: 23-24/CSIT/G6

A PROJECT THESIS ON

E-SWASTHYA

Submitted
for fulfillment of award of
Bachelor of Technology
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Computer Science and Information Technology
by

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Under the guidance of
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to

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Declaration

We hereby declare that the work presented in this report entitled "E-SWASTHYA", 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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ACKNOWLEDGEMENT

Apart from my efforts, the success of the project depends largely 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 Rahul Sharma, the our Head of the department, Dr. Rashmi Sharma , 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 Ms. Tanu Gupta 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

E-Swasthya is an innovative telemedicine project aimed at revolutionizing healthcare access in rural and underserved regions. By leveraging advanced digital technology, E-Swasthya facilitates remote consultations, health monitoring, and patient education through a user-friendly platform. This initiative significantly reduces the barriers to quality healthcare by eliminating the need for physical travel to medical facilities, thus saving time and resources for both patients and healthcare providers. The platform's integration with mobile health units and local healthcare workers ensures comprehensive care delivery, encompassing preventive, diagnostic, and therapeutic services tailored to the specific needs of the community.

The impact of E-Swasthya extends beyond individual health outcomes to broader socio-economic benefits. By creating job opportunities for local IT professionals and healthcare workers, the project contributes to economic growth and workforce development in rural areas. Additionally, the use of cutting-edge technology to enhance healthcare infrastructure demonstrates a commitment to industry innovation and sustainable development.

Project ID: 23-24/CSIT/G7

A PROJECT THESIS ON

Blockchain Based Lottery System

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Janmejay Singh (2000270110049)

Under the guidance of
Mr. Pancham Singh

to

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May, 2024

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Declaration

We hereby declare that the work presented in this report entitled "Blockchain-based Lottery 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 would like to express our deepest gratitude to Mr. Pancham Singh, our project supervisor, for their invaluable guidance, continuous support, and insightful feedback throughout the duration of this project. Their expertise and encouragement played a pivotal role in shaping our work and achieving the desired outcomes.

We extend our heartfelt thanks to the faculty members of the CSIT Department for their encouragement and support at every stage of our academic journey. Their dedication to excellence and passion for teaching have been a constant source of inspiration for us.

We are also thankful to our classmates and friends for their encouragement, constructive criticism, and moral support throughout the project. Their diverse perspectives and collaborative spirit enriched our learning experience and contributed to the success of this endeavor.

Last but not least, we would like to acknowledge the contributions of our families for their unwavering support, patience, and understanding. Their love and encouragement have been our source of strength, motivating us to overcome challenges and pursue our academic aspirations.

Abstract

The "Blockchain-Based Lottery System" is an innovative project aimed at revolutionizing the traditional lottery industry by harnessing the power of blockchain technology. Traditional lottery systems often suffer from issues related to transparency, security, and authenticity. This project seeks to address these challenges by implementing a blockchain-based solution that ensures transparency, prevents fraud, and simplifies prize distribution. The lottery industry faces challenges adapting to modern technology and maintaining trust due to outdated manual systems and transparency issues. Embracing digital solutions and blockchain innovation can revitalize the sector, aligning it with contemporary expectations and regulatory demands. Our "Blockchain-Based Lottery System" marks a transformative shift in lottery management, embracing blockchain for transparency and security. This innovation promises a future characterized by fairness, accessibility, and trust, underpinned by an immutable ledger. It redefines the lottery experience for the better.

Project ID: 23-24/CSIT/G08

A PROJECT THESIS ON

AI Integrated Application For Luggage Career System

Submitted
for fulfillment of award of
Bachelor of Technology
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by

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Kartikey Tyagi (2100270119005)
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Under the guidance of

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to

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May, 2024

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Declaration

We hereby declare that the work presented in this report entitled "AI INTEGRATED APPLICATION FOR LUGGAGE CAREER 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 and 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 and sources.

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Acknowledgement

Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. I'm grateful to our respected Head of the Department Dr. Rahul Sharma, for allowing me to use the facilities available. We would like to show our greatest appreciation to Ms. Sheradha Jauhari and other Faculty members. We cannot thank them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

Abstract

The importance of a luggage carrier system in today's era lies in its ability to address the challenges posed by increased travel, globalization, security concerns, and technological advancements. By providing efficient, secure, and data-driven solutions, these systems play a crucial role in shaping the future of the transportation and logistics industry. This project implements, the AI-enabled luggage carrier management system represents a paradigm shift in the transportation industry. By combining real-time tracking, route optimization, resource allocation, security features, GPS services, and advanced analytics, the system not only addresses current challenges but also sets the stage for a more efficient, secure, and data-driven future in luggage management. The system incorporates a comprehensive set of features, including real-time luggage tracking, route optimization, resource allocation, security enhancements, and user authentication. Leveraging cutting-edge technologies such as GPS services, data analytics, and predictive modeling, the system aims to revolutionize the luggage management landscape. The real-time luggage tracking feature ensures that both carriers and users can monitor the exact location and status of luggage throughout its journey. Route optimization and resource allocation algorithms work in tandem to streamline carrier operations, minimizing travel time and maximizing resource utilization. Security features embedded within the system add an extra layer of protection, safeguarding luggage from potential threats or unauthorized access.

Project ID: 23-24/CSIT/G10

A PROJECT THESIS ON

Intelligent Video Surveillance System

Submitted
for fulfillment of award of
Bachelor of Technology
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Computer Science and Information Technology
by

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Under the guidance of

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Declaration

We hereby declare that the work presented in this report, entitled **Intelligent Video Surveillance 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 and 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 and sources.

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We extend our heartfelt appreciation to Ms. Priya Singh and Ms. Shilpi Gupta, our esteemed project guides, whose unwavering support, invaluable guidance, and insightful feedback have been pivotal throughout the entirety of this project. Their expertise and encouragement have not only shaped our project but also inspired us to strive for excellence.

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We would like to express our deepest appreciation to our families and friends for their unwavering support, understanding, and encouragement throughout the duration of this project. Their belief in us has served as a constant source of motivation, and we are immensely grateful for their presence in our lives.

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We are sincerely grateful to everyone who has contributed to this project directly or indirectly. Your support has been invaluable, and we deeply appreciate it.

Warm regards

Abstract

Workplace environments across various sectors, including hospitals, construction sites, factories, and areas handling hazardous substances, mandate the use of Personal Protective Equipment (PPE) for employee safety. Similarly, public events and crowded locations necessitate effective crowd management solutions for ensuring security and order. Additionally, the increasing frequency of vehicular collisions on highways and city roads demands proactive measures for swift accident detection and response. This thesis presents a comprehensive approach leveraging the advanced machine learning algorithm YOLOv3 (You Only Look Once, version 3) to address these diverse safety and management challenges.

The project's objective is threefold. Firstly, it focuses on developing a robust YOLOv3-based system for real-time PPE compliance monitoring across various hazardous environments. The system will detect the presence of essential safety gear such as helmets, gloves, masks, and specialized suits. Secondly, the thesis explores the application of YOLOv3 for accurate crowd counting and density estimation in public gatherings. This solution aims to provide real-time crowd analysis to optimize resource allocation and prevent potential safety hazards in densely populated areas. Thirdly, the project investigates the potential of YOLOv3 for timely collision detection on roads and highways. The system is designed to identify accidents, classify their severity, and generate immediate alerts to emergency response services, minimizing response times and potentially saving lives.

The methodology involves a meticulous multi-stage process. First, extensive datasets encompassing safety gear, crowd patterns, and diverse vehicular collision scenarios are collected and annotated. These datasets are utilized to train the YOLOv3 architecture, allowing for accurate object recognition. The trained models are integrated into a system utilizing strategically placed cameras, enabling real-time monitoring and alert generation capabilities. The system undergoes rigorous performance evaluation in varying real-world conditions, refining its accuracy and addressing potential real-world challenges.

Project ID: 23-24/CSIT/G11

A PROJECT THESIS ON

Localization in Wireless Sensor Networks

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Bachelor of Technology
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Under the guidance of
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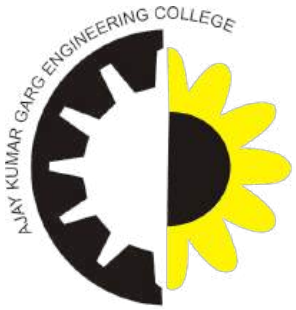

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May 2024

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Declaration

We hereby declare that the work presented in this report, entitled "LOCALIZATION IN WIRELESS SENSOR NETWORKS (INTRUSION 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 and 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 and sources.
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This is to certify that the report entitled **Localization in Wireless Sensor Networks** submitted by **Arpit Sharma(2000270110023), Mayank Khulbe (2000270110056), Prabal Yadav (2000270110066)**, and **Prakhar Shukla (2000270110068)** to the Dr.A.P.J Abdul Kalam Technical University,Uttar Pradesh,Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Computer Science and Information Technology) is a bonafide record of the project work carried out by my guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of my knowledge.

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Acknowledgements

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 "Localization in Wireless Sensor Networks."

Our sincere thanks go to Mr. Sanjay Sonker, our esteemed project guide, for his invaluable guidance, expertise, and unwavering support. Mr.Sonker's expertise, encouragement, and insightful feedback have been instrumental in shaping this research endeavor. His dedication to academic excellence and passion for the subject matter have been a constant source of inspiration for the entire group.

We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

Last but not least, We would like to express our gratitude to our family for their unwavering love, support, and encouragement throughout my academic endeavors.

This project would not have been possible without the support and guidance of Mr. Sanjay Sonker and everyone else who has contributed to its successful completion. Thank you all for your invaluable contributions. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

Intrusion Detection Systems (IDS) are pivotal in the field of cybersecurity, serving as the first line of defense against malicious activities and unauthorized access. Among the myriad of IDS solutions available, Snort stands out due to its open-source nature, robust capabilities, and extensive community support. This abstract delves into the essential aspects of IDS with a focus on the operational dynamics, deployment strategies, and the efficacy of Snort in detecting and mitigating cyber threats.

Intrusion Detection Systems play a crucial role in monitoring and analyzing network traffic to identify and respond to potential security threats. These systems can be broadly categorized into Network-based IDS (NIDS) and Host-based IDS (HIDS). Snort is a prominent example of NIDS, renowned for its real-time traffic analysis and packet logging functionalities. Originally developed by Sourcefire and now maintained by Cisco, Snort leverages the GNU General Public License (GPL), making it freely available for both personal and commercial use. Its popularity stems from its flexibility, powerful rule-based detection mechanism, and a thriving community that continuously updates and refines its rule sets.

Snort's architecture is composed of several integral components working in unison to detect intrusions effectively. The packet decoder captures network packets from different interfaces, preparing them for further processing. These packets are then passed to the preprocessor, which normalizes and modifies them to ensure accurate detection. Tasks handled by the preprocessor include defragmentation of IP packets and decoding of various protocols. The detection engine forms the core of Snort, where predefined rules are applied to identify patterns indicative of potential threats. These rules are highly customizable, allowing administrators to tailor detection capabilities to specific network environments and threat landscapes. The detection engine's findings are passed to the logger, which records the alerts and packet data for analysis. Finally, the alert system generates notifications based on the detection engine's output.

Project ID: 23-24/CSIT/G12

A PROJECT THESIS ON

Friendly Chat Application using NLP

Submitted
for fulfillment of award of

Bachelor of Technology
in
Computer Science and Information Technology

by

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Pranjal Rathi (2000270110069)

Under the Guidance of
Ms. Mrignainy Kansal

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

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We hereby declare that the work presented in this report, entitled "Friendly Chat Application using NLP", 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 and 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 and sources.

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Acknowledgements

Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. I'm grateful to our respected Head of the Department Dr. Rahul Sharma, for allowing me to use the facilities available.
We would like to show our greatest appreciation to Ms.Mrignainy Kansal and other Faculty members. We cannot think them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

Abstract

User-generated content has significantly increased as a result of the expansion ofsocial media platforms. Users now have the capacity to create, share, and trade material on these platforms in order to interact and communicate with one another.
On social media, threatening and abusive language spreads swiftly, but if we can track it down and re- move it, we can stop it.These would have provided new platforms for online bullies and haters to spread their hate while typically remaining anonymous to a larger audience. Due to the inflated number of social media users as well as the rising popularity of social media platforms like Facebook, Twitter, and Instagram, we need a robust and effective automatic system to detect threats and abusive phrases.
In this work, we develop a method based on Natural language processing to detect hate speech on online user comments.

Project ID: 23-24/CSIT/G13

A PROJECT THESIS ON

Smart Innovative Recycling

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
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We hereby declare that the work presented in this report entitled **"Smart & Innovative Recycling"**, 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 express our deep sense of gratitude to our respected HOD Prof. Rahul Sharma, Ajay Kumar Garg Engineering College for the valuable guidance and for permitting us to carry out this project. Apart from the efforts of all the team members, the section of this project report topic depends largely on the encouragement and guidance of our teachers. We take this opportunity to express our gratitude to the teachers who have been instrumental in the approval of this project topic. We would like to show our greatest appreciation to Mr. Sarvachan Verma and other staff members. We cannot think them enough for their tremendous support and help. They motivated and encouraged use very time while selecting the proper project topic. Without their encouragement and guidance, we would not have been able to select the proper topic.

Abstract

Garbage classification has always been crucial for social living, resource recycling, and environmental preservation. However, traditional methods are often inefficient and labour-intensive, leading to inaccurate sorting and environmental pollution. To address this challenge, researchers have developed an autonomous trash classification system based on deep learning technology. A Mobile App for Easy Interaction:The system operates through a user-friendly mobile app. Users capture images of their waste using their smartphones and upload them to the app. The app then transmits the images to the deep learning model for classification. This process is simple, convenient, and accessible to everyone.

Deep Learning at the Core is the heart of the system lies in a powerful deep-learning model. This model is based on the ResNet-101 architecture, a proven and highly effective deep-learning technique for image recognition. To further enhance its performance, the researchers optimized the model's network structure in three ways: Multi-feature fusion: This technique extracts diverse features from the input image, allowing the model to capture subtle details and variations in the waste, leading to more accurate classification.Data-Driven Training: The deep learning model is trained on a large dataset of garbage images. These images are carefully collected and preprocessed to ensure accurate and robust classification. This process is crucial for ensuring the model's generalizability and ability to handle diverse types of waste.Researchers address inefficient garbage sorting with an autonomous trash classification system based on deep learning. Users interact via a mobile app, uploading waste images for classification by a ResNet-101 based model. Optimization includes multi-feature fusion and data-driven training on a large dataset for robustness. This user-friendly solution enhances waste management, promoting resource recycling and environmental preservation.

Project ID: 23-24/CSIT/G9

A PROJECT THESIS ON

Emotion Detection System

Submitted
for fulfillment of award of
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in
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We hereby declare that the work presented in this report, entitled "Emotion 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. We have given due credit to the original authors and 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 and sources.

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We would like to express my sincere gratitude to my mentor,**Dr.Nandita Goyal**, for their guidance and support throughout the project. She was always available to answer my questions and provide me with feedback. They were also instrumental in helping me to develop my research skills and to write my thesis. We are grateful for their patience and encouragement. We would also like to thank my classmates,(**Amit Kumar, Divyank Singh, Divyansh Rathi and Himanshu**), for their collaboration and support. We worked together to overcome challenges and to achieve our goals. We shared resources and ideas, and we helped each other to stay on track. We are grateful for each other friendship and support. Finally, We would like to thank my family and friends for their love and support. They encouraged me to pursue my goals and to never give up. We could not have completed this project without them.

Abstract

The work presents the development of Emotion Based Music Player, which is a computer application meant for all types of users, specifically music lovers. Due to the troublesome workloads in songs selection, most people will choose to randomly play the songs in the playlist. As a result, some of the songs selected do not match the users' current emotion. Moreover, there is no commonly used music player which can play songs based on the user's emotion.

The proposed model can extract the user's facial expression and thus detect the user's emotion. The music player in the proposed model will then play the songs according to the category of emotion detected. It is aimed to provide a better enjoyment to music lovers in music listening. The scope of emotions in the proposed model involves normal, sad, surprise and happy. The system involves the major of image processing and facial detection technologies. The input for this proposed model is the .jpeg format still images which are available online.

An emotion detection system leverages advanced computational techniques to identify and interpret human emotions from various data inputs, such as text, speech, facial expressions, or physiological signals. The abstract of such a system outlines its core functionality, methodologies, and potential applications. The primary objective of an emotion detection system is to analyze data and accurately recognize emotional states. This system often utilizes machine learning algorithms, particularly deep learning models, which are trained on large datasets to detect subtle emotional cues. For text-based emotion detection, natural language processing(NLP) tech-

Project ID: 23-24/CSIT/G-14

A PROJECT THESIS ON

Mental Health Detection System

Submitted
for fulfillment of award of
Bachelor of Technology
in
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Declaration

We hereby declare that the work presented in this report, entitled "MENTAL HEALTH 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 and 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 and 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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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 "Mental Health Detection System". Our sincere thanks go to Ms. Mrignainy Kansal, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support, her insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

Social media has become a significant factor in the development of mental diseases, with the potential to significantly impact people's lives. This study explores the use of computational approaches and deep learning models to identify linguistic indicators suggestive of mental diseases such as depression, anorexia, and self-harm. The study also highlights the complex relationship between emotions and the underlying causes of mental diseases, emphasizing the need for understanding the emotional triggers. The research demonstrates the effectiveness of machine learning models in detecting anxiety and depression on websites like Twitter, Facebook, and Reddit, particularly during the COVID-19 pandemic. The study highlights the potential of data mining techniques for automating the diagnosis of Social Network Mental Disorders among social media users, aiming to improve lives and address the rising incidence of mental illnesses in society.

The field of mental health detection systems has witnessed significant advancements in recent years, fueled by the convergence of machine learning techniques, digital health technologies, and increased awareness of mental health issues. This paper provides a comprehensive review of research efforts aimed at developing and improving mental health detection systems. Beginning with an overview of the prevalence and impact of mental health disorders, the paper explores the challenges associated with traditional diagnosis and treatment methods. It then delves into the emergence of computational approaches, particularly machine learning and artificial intelligence, as promising tools for early detection, intervention, and personalized treatment of mental health disorders. The paper discusses various data sources utilized in mental health research, including social media data, electronic health records, wearable sensor data, and neuroimaging data, highlighting their potential for capturing valuable insights into individuals' mental health status. Furthermore, the paper examines different computational techniques employed in mental health detection systems, such as deep learning, natural language processing, and pattern recognition algorithms, along with their applications in tasks s

Project ID: 23-24/CSIT/G15

A PROJECT THESIS ON

CancerAI: Empowering Cancer Diagnosis Via Computer Vision

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Under the guidance of
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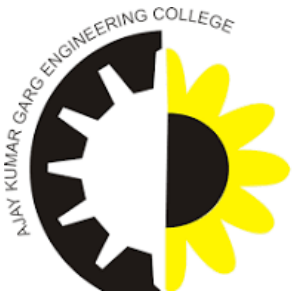
to



AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

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Declaration

We hereby declare that the work presented in this report, entitled "CancerAI: Empowering Cancer Diagnosis Via Computer Vision", 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 original authors and sources for all 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 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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We would like to express our sincere gratitude to Dr. Ruchi Gupta, our mentor and professor, for her invaluable guidance and support throughout this final year project titled "CancerAI: Empowering Cancer Diagnosis via Computer Vision Techniques."

Dr. Gupta's expertise in the field of computer vision and her unwavering belief in our project significantly motivated us. Her constant encouragement, insightful feedback, and meticulous review of our work helped us navigate challenges and refine our approach. We are incredibly fortunate to have had her as our mentor.We would also like to extend our thanks to entire IT Department faculty members and colleagues who provided valuable feedback and support during the development of this project.Finally, we are grateful to our families and friends for their unwavering encouragement and support throughout our academic journey.This project would not have been possible without the contributions of the aforementioned individuals. We are truly thankful for their support.

Abstract

One significant issue in India is the late diagnosis of cancer cases. Many patients seek medical attention when the disease is already in advanced stages, making it more challenging to treat and leading to lower survival rates . In this context, computer vision can play a crucial role in cancer detection and diagnosis. Automated systems can assist in the early detection of cancerous lesions in medical images, which is vital in a country like India with a high cancer burden and limited resources for manual diagnosis. YOLO (You Only Look Once) is an object detection algorithm that has become increasingly popular in recent years, reducing the need for high-performance hardware. YOLO is fundamentally a deep learning algorithm based on CNN and is commonly used in applications such as segmentation, classification, object detection, and realtime object tracking.this study utilizes YOLOv8 for this purpose Accordingly, this study proposes a two-stage learning system for medical data. In the first stage, an abundant and sufficient amount of data is preprocessed and trained with the CNN architecture. After the training and nodule identification, in the second stage, YOLOv8 is fine-tuned for real-time applications to achieve fast and convenient integration.Streamlit can be used after model training to create interactive web applications that showcase or utilize the trained models. This study represents a significant stride towards early skin cancer detection and the implementation of preventive measures, offering valuable insights for future research. Deeper networks and larger datasets can be explored in future studies to further enhance the robustness and accuracy of the results.

Project ID: 23-24/CSIT/G16

A PROJECT THESIS ON

Counterfeit Medicine Detection System

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for fulfillment of the award of

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in
Computer Science and Information Technology

by

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Under the guidance of
Dr Aditya Pratap Singh

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We hereby declare that the work presented in this report entitled "Counterfeit Medicine 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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This certificate certifies that **Tanmay Trivedi** (2000270110095), **Vaibhav Jaiswal** (2000270110097), **Pratham Sharma**(2000270110072), **Syed Nawaz Ali**(2000270110093) has carried out the Project/Research entitled **"Counterfeit Medicine Detection System"** for the award of **Bachelor Of Technology** from DR. A.P.J. 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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I would like to express my sincere gratitude to my Head of the Department, Dr. Rahul Sharma, for his valuable guidance, encouragement, and support throughout the course of this project. His insights and expertise have been instrumental in shaping the direction of my work, and I am truly thankful for the opportunity to learn under his leadership.

I am also indebted to my project mentor, Dr. Aditya Pratap Singh‘, whose continuous assistance and constructive feedback have been invaluable in the development of this project. His dedication to fostering a learning environment and his willingness to share his knowledge have significantly contributed to the success of this endeavor.

I extend my thanks to the faculty members of Computer Science and Information Technology for their unwavering support and for creating an atmosphere conducive to academic and research pursuits. I would also like to acknowledge the contributions of my peers and friends who provided assistance and encouragement throughout the project. Finally, I express my heartfelt gratitude to my family for their unending support and understanding during this challenging yet rewarding journey.

Abstract

In recent years, the use of counterfeit drugs has become a significant public health concern globally. To tackle this problem, various technologies have been employed, including blockchain, due to its inherent characteristics such as transparency, immutability, and decentralization. By using blockchain technology, the pharmacy industry can ensure a secure and transparent supply chain, which helps to eliminate the entry of counterfeit medicines into the market. Since blockchain technology help to track every drug movement from the manufacturer to the end user's doorstep, it becomes easy to trace the drug's origin and detect any signs of tampering or counterfeiting. A method is proposed for detecting fake medicines using blockchain technology. The system tracks the entire lifecycle of a drug, from manufacturing to distribution, and maintains a decentralized ledger that records each transaction. This approach enables stakeholders to verify the authenticity of drugs in real-time, ensuring that only genuine medicines reach patients. The system's effectiveness in detecting counterfeit drugs is evaluated using a simulated environment, and the results show that the proposed method can effectively detect fake medicines with high accuracy and reliability. Overall, the use of blockchain technology in the detection of counterfeit drugs provides a promising solution to the issue of fake medicines in the healthcare industry. Counterfeit drugs is a serious issue associated with the healthcare industry which causes extreme threats to the society. The traceability of the drugs throughout the pharma supply chain is a difficult task. Another serious issue in combating counterfeit medicines in healthcare systems is the maintenance and sharing of health records. our system will be Tracking the supply of drugs from the manufacturer to the patient. Storing data on the block supply chain every time the drug travels from one entity to another.

Project ID: 23-24/CSIT/17

A PROJECT THESIS ON

Mental Health Diseases and Diagnosis

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Parkhi (2000270110065)
Shikhar Maurya (2000270110086)
Shreya Upadhyay (2000270110090)

Under the guidance of
Dr. Shivani Agarwal

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "Mental Health Diseases and Diagnosis", 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 and 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 and 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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This is to certify that the report entitled **Mental Health Diseases and Diagnosis** submitted by **Aakanksha Verma (2000270130001), Parkhi (2000270110065)**, **Shreya Upadhyay (2000270110090)** and **Shikhar Maurya (2000270110086)** to the Dr. A. P. J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Information Technology 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, to the best of my knowledge.

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Acknowledgements

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 "Mental Health Diseases and Diagnosis". Our sincere thanks go to Dr. Shivani Agarwal, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support, her insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appreciation to the faculty members of the IT. Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

The rising prevalence of mental health disorders, especially depression among the youth, demands immediate and innovative solutions for early detection and personalized intervention. Untreated mental health issues can lead to long-term distress and socioeconomic costs, emphasizing the need for accessible assessment tools. Stigma further inhibits timely support, worsening disparities in mental healthcare. Our project aims to revolutionize mental health assessment with a comprehensive identification system, reducing the burden on traditional healthcare and empowering proactive mental well-being management. We advocate for policy changes prioritizing mental health, increased funding for research and prevention, and partnerships with institutions to promote mental health education and resilience. Our goal is a future where mental health is as valued as physical health, with comprehensive, stigma-free support readily available to all.

Project ID: 23-24/CSIT/G18

A PROJECT THESIS ON

Nutrient Management In Smart Agriculture

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
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Naman Jain (2000270110062)
Sourabh Mittal (2000270110091)

Under the guidance of
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to

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Declaration

We hereby declare that the work presented in this report entitled "Nutrient Management in Smart Agriculture", 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 **Nutrient Management in Smart Agriculture** submitted by **Kharanshu Tiwari (2000270110052), Muskan (2000270110061), Naman Jain (2000270110062)** and **Sourabh Mittal(2000270110091)** to the Dr. A. P. J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology, Computer Science, and Information Technology) is a bonafide record of the project work carried out by them under my/our guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of my knowledge.

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Acknowledgements

We extend our heartfelt gratitude to Professor Tahira Mazumder for her invaluable guidance and unwavering support throughout the process of conceiving and developing the project on "Nutrient Management in Smart Agriculture." Professor Mazumder's expertise, encouragement, and insightful feedback have been instrumental in shaping the project and elevating its quality.

We would also like to express our appreciation to our project team members, Kharanshu Tiwari, Muskan, Naman Jain, and Sourabh Mittal. Their collaborative efforts, dedication, and diverse skill sets have enriched the project, making it a comprehensive and well-rounded endeavor.

This project has been a collective endeavor, and we are thankful for the collaboration, cooperation, and shared commitment to excellence demonstrated by each team member. It has been a journey of learning, growth, and accomplishment, and we are grateful for the opportunity to work together under Professor Tahira Mazumder's guidance.

Yours Sincerely,

Kharanshu Tiwari
Muskan
Naman Jain
Sourabh Mittal

Abstract

Smart agriculture grapples with the persistent challenge of mitigating crop losses, primarily rooted in insufficient crop monitoring. This demands a comprehensive approach, wherein classification analysis guides the identification of optimal crop locations, while efficient irrigation strategies minimize labor and maintain soil moisture through predictive risk assessments. Anomaly analysis further empowers farmers by systematically identifying and mitigating potential risks, ensuring informed decision-making and minimal disruptions to crop yield.

The transformative potential of smart agriculture is encapsulated in its holistic approach to nutrient management. Leveraging real-time data analysis and machine learning, precision nutrient management tailors nutrient applications to specific crop types, soil conditions, and environmental factors, optimizing both productivity and sustainability.

This comprehensive reevaluation of farming practices underscores resource efficiency and environmental responsibility. Through technology-driven irrigation, nutrient management, and risk assessment, smart agriculture not only addresses current challenges but promises to usher in a future characterized by enhanced efficiency, sustainability, and productivity for global agriculture. This integration of cutting-edge technologies and sustainable practices positions smart agriculture as a beacon for the future of the agricultural landscape.

Project ID: 23-24/CSIT/G-26

A PROJECT THESIS ON

Sales Performance Evaluation using Data Science and Machine Learning

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Under the guidance of

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We hereby declare that the work presented in this report, entitled "SALES PERFORMANCE EVALUATION USING DATA SCIENCE AND 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 and 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 and sources.

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Acknowledgements

We would like to express our sincere gratitude to everyone who contributed to the successful completion of this project on Sales Performance Evaluation using Data Science and Machine Learning.

First and foremost, we extend our heartfelt thanks to our supervisor, Mr.Madhup Agrawal, for his invaluable guidance, unwavering support, and insightful feedback throughout the entire duration of this project.His expertise and encouragement played a pivotal role in shaping the direction and quality of our work.

We are deeply grateful to each other i.e. members of this project team, whose collaborative efforts and dedication significantly enriched the project. Each team member brought a unique set of skills and perspectives, contributing to the diversity and strength of our approach.

We would like to acknowledge the support and resources provided by Ajay Kumar Garg Engineering College, without which this project would not have been possible. The access to data, tools, and infrastructure was instrumental in conducting a thorough analysis and implementing machine learning models for accurate sales performance evaluation.

Abstract

Effective sales performance evaluation is essential for businesses to maximize revenue, optimize resources, and improve overall sales strategies. This project leverages data science and machine learning techniques to develop a robust and data-driven system for evaluating sales performance. The objective is to provide organizations with actionable insights to enhance their sales efforts and achieve sustainable growth.

The project begins with the collection and preprocessing of sales data, which encompasses a wide range of variables, including sales figures, customer demographics, product attributes, and more. Data cleaning and transformation are crucial for ensuring data quality and accuracy.

Machine learning algorithms, such as regression analysis, clustering, and classification, are then applied to uncover patterns and correlations within the data. Predictive models are developed to forecast future sales, identify potential high-value customers, and suggest optimal pricing strategies. Additionally, unsupervised learning techniques are used to segment customers and products, allowing for more targeted marketing and sales initiatives.

The results of this project will empower businesses to make data-driven decisions, optimize sales strategies, and identify areas for improvement. By harnessing the power of data science and machine learning, organizations can gain a competitive edge in the dynamic and highly competitive sales landscape, ultimately driving revenue growth and customer satisfaction.

Project ID: 23-24/CSIT/25

A PROJECT THESIS ON

BlockTrackers: A Blockchain Based Food Supply Chain Tracking System

Submitted
for fulfillment of the award of

Bachelor of Technology
in
Computer Science and Information Technology

by

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Shahbaz Ali (2000270110082)

Under the guidance of
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AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May 2024

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Declaration

We hereby declare that the work presented in this report entitled "BLOCK-TRACKERS: A Blockchain Based Food Supply Chain Tracking 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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Certified that **Prateek Chauraisa** (2000270110071), **Anupam Dwivedi** (2000270130029), **Shahbaz Ali** (2000270110082) has carried out the Project / Research entitled **"BLOCKTRACKERS: A Blockchain Based Food Supply Chain Tracking 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: May 29, 2024

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Acknowledgements

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 "Blockchain Based Food Supply Chain Tracking System". Our sincere thanks go to Ms. Mrignainy Kansal, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support, her insightful feedback and encouragement were crucial in shaping the direction of our research. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

This project presents a revolutionary solution designed to usher in a new era for the food supply chain, setting standards for transparency, accountability, and quality assurance. In response to the multifaceted challenges afflicting the contemporary food industry, including a dearth of accessible and dependable data on product origin, authenticity concerns, and equitable compensation for farmers, this project harnesses the transformative potential of blockchain technology. At its core, the project introduces a blockchain-based food supply chain tracking system, seamlessly integrated with the BlockTrackers application, which meticulously documents and traces the entire lifecycle of food products. This comprehensive system provides a robust foundation for stakeholders across the supply chain, offering numerous benefits, and it promises to bring about a paradigm shift in the food supply chain.

Project ID: 23-24/CSIT/23

A PROJECT THESIS ON

Diabetes Detection Through Retinopathy

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Anshika Agarwal (2000270110014)
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Under the guidance of
Dr. Ruchi Gupta

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
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Declaration

We hereby declare that the work presented in this report entitled "Diabetes Detection through Retinopathy", 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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This is to certify that the report entitled **Diabetes Detection through Retinopathy** submitted by **Abhishek Gupta**(2000270110002), **Anshika Agarwal**(2000270110014) and **Anushka Awasthi**(2000270110017) to the Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Computer Science and Information Technology) is a bonafide record of the project work carried out by the students under our guidance and supervision. This report in any form has not been submitted to any other university or institute for any purpose, to the best of my knowledge.

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Date: May 24, 2024

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Acknowledgements

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 "Diabetes Detection through Retinopathy" Our sincere thanks go to Dr. Ruchi Gupta, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Dr. Ruchi's insightful feedback and encouragement were crucial in shaping the direction of our research. Her dedication to academic excellence and passion for the subject matter has been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project.

Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement.

This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

Diabetes mellitus is a prevalent chronic disease affecting millions of individuals worldwide. One of the major complications of diabetes is diabetic retinopathy, a condition that can lead to severe vision loss if left untreated. Early detection and diagnosis of retinopathy are crucial for effective intervention and management. In this project, we propose a deep learning approach for the automated diagnosis of diabetic retinopathy using a convolutional neural network (CNN) model.

The CNN model is trained on a large dataset of retinal images obtained from diabetic patients with varying stages of retinopathy. The dataset is carefully annotated by expert ophthalmologists to ensure accurate labeling of different retinopathy severity levels. The model is designed to learn and extract relevant features from retinal images to classify them into different categories, representing the severity of retinopathy.

To evaluate the performance of the proposed CNN model, we employ various metrics such as accuracy, precision, recall, and F1-score. Additionally, we compare the model's performance with that of human experts to assess its diagnostic capability. The project also investigates the interpretability of the CNN model by visualizing the learned features and highlighting areas of interest in the retinal images.

The results obtained from our experiments demonstrate that the CNN model achieves a high level of accuracy and robustness in diagnosing diabetic retinopathy. The model outperforms human experts in certain scenarios, suggesting its potential as an effective screening tool for early retinopathy detection. The interpretability analysis provides insights into the regions of the retinal images that contribute most significantly to the model's predictions.

In conclusion, this project contributes to the field of diabetic retinopathy diagnosis by presenting a CNN model capable of accurately classifying retinal images based on retinopathy severity. The proposed model has the potential to improve the efficiency and accessibility of retinopathy screening, enabling early intervention and preventing irreversible vision loss in diabetic patients.

Project ID: 23-24/CSIT/G22

A PROJECT THESIS ON

AID-UP

Submitted
for fulfillment of award of

Bachelor of Technology
in
Computer Science and Information Technology

by

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We hereby declare that the work presented in this report entitled "AID-UP", 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 **"AID-UP: A Platform to Connect NGOs And Volunteer Teachers"** submitted by **Ananya Arora (2000270110009), Anirudh (2000270110011)** and **Anshika Sharma (2000270110015)** to the Dr. A.P.J. Abdul Kalam Technical University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in (Information Technology/ Computer Science and Information Technology) 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, to the best of my knowledge.

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Acknowledgements

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 "AID-UP" Our sincere thanks go to Ms. Chitra, our esteemed project guide, for her invaluable guidance, expertise, and unwavering support. Ms. Chitra's insightful feedback and encouragement were crucial in shaping the direction of our research. Her dedication to academic excellence and passion for the subject matter has been a constant source of inspiration for the entire group. We extend our appreciation to the faculty members of the IT Department for their valuable teachings and constructive feedback, which significantly contributed to our understanding of the concepts applied in this project. Special thanks are due to our peers and friends for their collaborative spirit, engaging discussions, and mutual support throughout the project. The exchange of ideas and perspectives has undoubtedly enriched the quality of our work. We acknowledge the efforts of each member of our group, recognizing the unique strengths and contributions that made this collaborative effort possible. Working together has been a rewarding experience, and we are proud of the collective achievement. This project has been a journey of shared learning and growth, and we are thankful to everyone who played a role, directly or indirectly, in its successful completion.

Abstract

In an era where the role of non-governmental organizations (NGOs) is increasingly pivotal in addressing societal challenges, the efficient mobilization of volunteer resources stands as a critical factor in their success. However, the process of connecting willing volunteers with NGOs seeking assistance often faces inefficiencies and barriers. This thesis proposes the development of an innovative application designed to bridge this gap seamlessly. The application aims to empower individuals by providing them with a user-friendly platform to volunteer their expertise and time, tailored to their specific areas of interest and availability. By maximizing the impact of volunteers' contributions, the application seeks to enhance the efficiency and effectiveness of NGO operations. Through meticulous design and implementation, this project endeavors to facilitate meaningful connections, thereby fostering a more collaborative and impactful landscape within the NGO sector.

Project ID: 23-24/CSIT/G21

A PROJECT THESIS ON

UpCrop

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
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We hereby declare that the work presented in this report entitled "Up-Crop", 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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Acknowledgement

We extend our sincerest gratitude to all those who contributed to the development and success of the Crop Recommendation System using Machine Learning, known as UpCrop.First and foremost, we express our appreciation to our team members whose dedication, expertise, and collaborative spirit were instrumental in every phase of the project. Their tireless efforts and commitment to excellence ensured the realization of UpCrop as a valuable tool for agricultural advancement.We are deeply thankful to our mentors and advisors for their invaluable guidance, insightful feedback, and unwavering support throughout the project's journey. Their wisdom and encouragement have been invaluable in navigating challenges and refining our approach. We are also grateful to the farmers and agricultural experts who generously shared their knowledge, experiences, and insights, which greatly informed the development of UpCrop. Their input was essential in ensuring the system's relevance, effectiveness, and practical utility in real-world agricultural contexts.Furthermore, we acknowledge the support and resources provided by AKGEC and our guide, without which this project would not have been possible. Lastly, we express our heartfelt thanks to all those who have contributed directly or indirectly to UpCrop, including friends, family, and colleagues. Your encouragement and belief in our vision have been a constant source of motivation and inspiration.
Thank you all for your unwavering support and contributions to UpCrop. Together, we are empowering farmers and revolutionizing agriculture for a sustainable future.

Abstract

The Crop Recommendation System using Machine Learning, referred to as UpCrop, is a pioneering solution aimed at revolutionizing agricultural practices by leveraging advanced technologies. With a focus on enhancing crop selection processes, UpCrop utilizes machine learning algorithms to analyze various agricultural parameters and provide personalized crop recommendations to farmers. By integrating data on soil characteristics, climate conditions, historical yields, and agronomic practices, UpCrop offers tailored guidance to optimize crop selection for specific environmental conditions. Through its user-friendly interface and sophisticated algorithms, UpCrop assists farmers in making informed decisions, ultimately leading to increased productivity, sustainability, and profitability in agriculture. This abstract encapsulates the essence of UpCrop, highlighting its potential to transform the agricultural landscape and empower farmers with actionable insights for improved crop management.

Project ID: 23-24/CSIT/20

A PROJECT THESIS ON

Human Activity Recognition System

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

Sakshi Srivastava (2000270110078)
Sanskar Varshney (2000270110081)
Tanishq Srivastava (2000270110094)
Utsav Singh (2000270110096)

Under the guidance of
Ms.Tahira Mazumder

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

May, 2024

Director
Ajay Kumar Garg Engg. College
Ghaziabad

Declaration

We hereby declare that the work presented in this report, entitled "Human Activity Recognization 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 and 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 and 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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Place: Ghaziabad
Date: May, 2024

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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 **Ms. Tahira Mazumder**, Department of Information Technology, 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. It is only their cognizant efforts that our endeavors have seen light of the day.

We also take the opportunity to acknowledge the contribution of **Dr. Rahul Sharma**, Head, Department of Information Technology, Ajay Kumar Garg Engineering College, Ghaziabad for his full support and assistance during the development of the project.

Abstract

Within the scientific world, human activity recognition has gained a lot of attention in recent years.The automatic prediction of the routine human activities we carry out in our daily lives—such as running, walking, doing office work, etc.—is known as Human Activity Recognition (HAR). The reason it is receiving attention is because it directly affects many other fields, such as fitness and healthcare. Furthermore, the widespread usage of smartphones now makes it very simple to collect this type of data from individuals in an inexpensive, non-intrusive manner ,without the need for other wearables.

In this study, we use deep learning algorithms to analyze the current developments in HAR by classifying recent research work according to different variables and measurements. We present various state-of-the-art methods and describe each of them by literature survey. Deep learning-based algorithms are now the most effective and efficient option for identifying and resolving HAR issues, according to recent improvements in processing power. For every approach, a separate dataset is employed , Information and data are gathered using a variety of tools, including magnetometers, accelerometers, gyroscopes, sensors, photos, and positioning of these devices at different points. Next, a comparison is made between the outcomes of each approach and the kind of dataset.

Project ID: 23-24/CSIT/G-19

A PROJECT THESIS ON

HARVESTIFY

Submitted
for fulfillment of award of
Bachelor of Technology
in
Computer Science and Information Technology
by

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Mansi Yadav (2000270110056)
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Under the guidance of
Dr. Veena Bharti

to

AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD

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Declaration

We hereby declare that the work presented in this report, entitled "HARVESTIFY", 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 and 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 and 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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The development of Harvestify, a web application that harnesses the power of machine learning for crop disease detection, soil analysis, and crop recommendation, has been a transformative experience filled with both triumphs and challenges. It would not have been possible without the unwavering support and guidance of several individuals and a project that sparked my initial inspiration.

I am incredibly grateful to our esteemed project guide, Dr. Veena Bharti. Her expertise in the field proved invaluable throughout this journey. Dr. Bharti's ability to translate complex concepts into clear and actionable steps was instrumental in shaping Harvestify into a robust and potentially impactful application. Her insightful feedback during brainstorming sessions, meticulous review of research papers, and unwavering support during moments of doubt were the cornerstones upon which Harvestify was built.

We would also like to express our gratitude to Dr. Rahul Sharma, HoD of Information Technology Department at Ajay Kumar Garg Engineering College for their insights and assistance, his unwavering belief in our abilities and his constant encouragement motivated me to push ourselves further and refine our approach, ensuring Harvestify's potential to make a positive impact on the agricultural sector.

Abstract

Indian agriculture plays a vital role in the nation's economic landscape and social fabric. With nearly half of the population (approximately 48 percent) relying on agriculture for their livelihood, ensuring the sector's success is paramount for sustainable development and job creation. However, Indian farmers often face significant challenges in optimizing crop selection and soil management practices, directly impacting their yield and profitability.

This research addresses a critical challenge: empowering farmers with data-driven insights to make informed decisions regarding crop selection and fertilizer application based on specific soil conditions. We propose a novel machine learning-based system, "Harvestify," designed to bridge the knowledge gap and empower farmers, particularly those with less experience. Harvestify analyzes key soil properties, including but not limited to pH levels, to recommend suitable crops with the potential for high yields. This goes beyond simple crop suggestions; the system delves deeper, offering targeted fertilizer recommendations tailored to the chosen crop and the unique characteristics of the analyzed soil.