Amit Paul

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Experience

Project Intern – CDAC, Kolkata

Feb 2024 – Aug

- Developed an easy-to-use forensic GUI, cutting image forgery detection time by 45% and making the workflow more efficient.
- Integrated SIFT, ORB, Lowe's ratio, DBSCAN, and DFT, increasing detection accuracy by 30% and reducing false positives.
- Implemented real-time visualization of forged areas, boosting team productivity by 25% with quicker result interpretation.
- Reduced validation effort by 40% by generating a diverse dataset of manipulated images. This ensured strong testing and higher reliability of the forensic tool.
- Increased research usability and adoption by delivering a visual, accessible tool that colleagues could use without needing deep technical expertise. This encouraged collaboration across teams.

Projects

Attendance System — Image Analysis Based

- I began an automated attendance system using facial recognition from group images to mark attendance efficiently to reduce human error. This project involved problem-solving, requirement analysis and managing time effectively.
- It delivered an automated system that accurately marks attendance from group photos, analyze the data and make a table.
- Tools used: Python, OpenCV, TensorFlow, Flask, HTML, CSS.

Interactive Quiz Game — Python & JSON

- I started building an engaging platform to test knowledge. This project required creativity, debugging and rapid prototyping.
- This Interactive Quiz Game asks multiple-choice questions and shows the final score at the end.
- The questions are loaded from a JSON file and it can be easily extended by modifying the file.
- Tools used: Python, Json, Flask, HTML.

Service Buddy — Customer Service Chatbot

- I Started to apply NLP for customer support. This involved designing communication, understanding users and working together.
- This project is a Customer Service Chatbot designed to assist users by providing product information, answering common queries about orders, shipping, payment methods and troubleshooting issues through natural language interaction.
- Tools used: Python, NLTK, JSON, Flask, HTML, CSS.

Cricket Analyzer — Python GUI Application

- This project is a GUI-based application that helps users calculate cricket run rates and perform other mathematical operations(including DLS method) . By entering details like runs scored or overs played, users can easily get accurate results in a simple and intuitive interface
- I Started to simplify cricket run rate and D/L calculations. This required logical thinking, user-focused design and handling feedback.
- Tools used: Python, Tkinter, Numpy.

Image Analyzer — Advanced Image Processing GUI

- This project is an advanced Image Analyzer GUI that performs image processing, quality assessment, metadata extraction, and forgery detection using algorithms like SIFT, ORB, DCT.
- This GUI tools involved research collaboration, precision, and documentation.
- Tools used: Python, PyQt, SIFT, ORB, DCT.

Skills

Technical Skills

Python, Java, HTML5, CSS3, JavaScript, SQL, OpenCV, NLTK, JSON Flask, Tkinter, PyQt
MS Word, Excel, PowerPoint, Git/GitHub

Managemental Skills
Time Management, Project Management, Communication Skills

Language
English, Bengali, Hindi

Education

Techno Engineering College Banipur *2021 - 2025*
Bachelor of Technology, CSE, CGPA: 8.38

Banipur Baniniketan High School (H.S.) *2013 - 2021*
Higher Secondary, Percentage: 88.2
Secondary, Percentage: 85.2

Certification

- Big Query for Data Analyst (Google) *2025*
- Introduction to Artificial Intelligence [IBM] *Apr 2025*
- Crash Course on Python (Coursera) *Oct 2023*
- Enhancing Soft Skills and Personality (NPTEL) *May 2022*
- Ethics in Engineering Practice (NPTEL) *May 2022*

Research Paper

Early Detection of Breast Cancer Using Logistic Regression Method (Python)

focuses on predicting breast cancer at an early stage to reduce mortality rates among women in India, where it accounts for about 14% of all cancers. Using the Wisconsin Diagnostic Breast Cancer dataset, we applied the Logistic Regression algorithm along with 10-fold cross-validation and various train-test splits. The model achieved high performance with accuracies up to 96% and was evaluated using metrics such as accuracy, sensitivity, specificity.
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