Alapan Das

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PROFESSIONAL SUMMARY

Final-year Information Technology student with strong skills in programming, systems management and problem solving. Known for adaptability, attention to detail, time management, and effective team collaboration. Eager to apply academic learning to real-world IT challenges and contribute to impactful solutions.

TECHNICAL SKILLS

Programming Languages: C++, Core Java, C, Python, Javascript
Database: MySQL, Oracle, MongoDB
Web Technologies: HTML, CSS, Node.js, React.js
Version Control System: Git, Github
Development Methodologies: Agile, Scrum, Kanban, Prototype, Spiral
Deployment Tools: Docker, Vercel

EXPERIENCE

IBM SkillsBuild Internship   *June-Aug'24*
- Completed a Front-End Web Development task for **FoodWise** using **HTML**, **CSS**, and **JavaScript**.
- Collaborated in a team environment to design user interfaces and resolve integration issues with RESTful APIs.
- Gained exposure to Agile practices and version control using **GitHub**.

PROJECTS

AI Traffic Management System (Group Project)   **(Github Repository)**

Flask, PyTorch, OpenCV, Flask-SocketIO, NetworkX, RESTful APIs

- Developed a real-time smart traffic light system using **DQN**, **PyTorch**, and **OpenCV** for video-based traffic density classification, enabling dynamic signal timing and congestion reduction through **NetworkX**-based alternate route engine and multi-intersection synchronization.
- Built **RESTful APIs**, **WebSocket** endpoints, and integrated **Flask-SocketIO** for live updates, route suggestions, real-time video streaming, and seamless backend-frontend interaction via interactive dashboards.

Driver's Drowsiness Alert System (Group Project)   **(Github Repository)**

Python, Flask, OpenCV, Dlib, eSpeak, NumPy, Imutils, HTML, CSS

- Developed a real-time driver drowsiness detection system using **OpenCV**, **Dlib**, and **Flask** for live facial monitoring, implementing **facial landmark detection** and eye movement tracking to identify fatigue and trigger alerts.
- Designed a web-based interface for accessibility and integrated multi-threaded voice alerts using Python's threading module and **eSpeak** for real-time accident prevention.

FoodWise: Food Wastage Solution (Group Project)   **(Github Repository)**

MongoDB, Express.js, Node.js, JWT, and RESTful APIs

- Designed API routes and structured efficient database schemas, implementing **JWT-based authentication** with access and refresh tokens for secure session management and protection against unauthorized access.
- Optimized API performance, resolved backend-frontend integration issues through proper response formatting, and secured user data using **bcrypt-based authentication**.

ACHIEVEMENTS

Smart Bengal Hackathon (Finalist)   *May'25*
- Project: AI-Powered Smart Traffic Management System

EDUCATION

B.Tech in **Information Technology** from *University of Calcutta* (**CGPA:** 8.15)   *2023-2026(Expected)*
B.Sc in **Computer Science (Hons.)** from *University of Calcutta* (**CGPA:** 8.379)   *2020-2023*
Higher Secondary Education (*W.B.C.H.S.E*)(**Percentage:** 88.4%)   *2020*
Secondary Education (*W.B.B.S.E*)(**Percentage:** 87.4%)   *2018*

SOFT SKILLS

Problem-solving, Team-Collaboration, Time Management, Attention to Detail, Adaptability