Satya Aman

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About Me — Full-Stack Developer and Computer Science sophomore with a strong foundation in Data Structures and Algorithms. Proficient in C, C++, Java, and JavaScript, with experience building scalable web applications and designing efficient algorithmic solutions. Skilled in both frontend and backend development, leveraging modern frameworks and databases to create high-performance systems. Passionate about problem-solving, software architecture, and writing clean, maintainable code.

Skills

Languages: C++ • C • Java • Python
Front-End: HTML • CSS • JavaScript • React.js • Tailwind CSS
Back-End: Node.js • Express.js
Databases: MongoDB • Oracle • MySQL
Other Skills: Git • AWS • Vercel • API Integration

Experience

Hackathon: Bhartiya Antariksh Hackathon 2024

- Developed a web interface for an AI model detecting craters and boulders in OHRC images, displaying precise coordinates.
- Designed a real-time visualization dashboard using React and Tailwind CSS, improving UI/UX efficiency by 40%.
- Integrated the AI model with Node.js and Express, allowing seamless backend processing of satellite image data.
- Implemented MongoDB for storing and retrieving crater detection results, ensuring fast query performance.
- Created a technical presentation and demo showcasing the AI model's accuracy and real-world applications.

Hackathon: KPIT Sparkle 2023

- Developed the front-end interface for an AI/ML model focused on road traffic safety analysis.
- Designed a simulation environment using CARLA, enabling testing of AI-driven traffic predictions.
- Collaborated with a team to optimize real-time vehicle detection and traffic pattern analysis using AI.
- Engineered a user-friendly dashboard to display risk assessment insights, making road safety analysis more accessible.
- Presented findings and implementation strategies to a panel of industry experts, earning recognition for innovation.

Education

Kalinga Institute of Industrial Technology (KIIT DU) 2023 - 2027
B.Tech in Computer Science and Engineering
GPA: 9.29/10.0 (Upto 3rd Semester)

Projects

Web Interface for AI Model (Crater and Boulder Detection) **JUL 2024 – Present**
- Developed a web interface to visualize the output of an AI model for crater and boulder detection in OHRC images
- Built the front-end using React to display images with detected craters and boulders, along with their coordinates
- Integrated the AI model into the back-end using Node.js and Express to process the images and return detection results
- Designed and implemented a database (MongoDB) to store the detected coordinates and image metadata for efficient querying
- Created a seamless user experience to upload OHRC images, run detection, and view results in real-time
- Deployed the full-stack application to GitHub Pages for the front-end and Heroku for the back-end

Front-End Interface for AI Model and Simulation Data **SEP 2024 – Present**
- Developed a front-end interface to visualize AI/ML-based road traffic safety simulation data
- Designed an interactive dashboard using React.js and Tailwind CSS to display real-time AI predictions and traffic analysis
- Integrated CARLA Simulator output into the interface to provide a seamless user experience for testing AI-driven decisions
- Optimized the UI/UX for real-time data streaming from the simulation environment and enhanced interactivity
- Collaborated with back-end engineers to ensure smooth integration of AI models and real-world traffic scenarios
- Deployed the front-end using Vercel for easy access and fast performance