JAYASURIYA S

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EDUCATION

B.E. Computer Science & Engineering, Sri Eshwar College of Engineering (2024–2025) | CGPA: 8.20

St. Mary's Anglo Indian Higher Secondary School | HSC – 96% | SSLC – 98%

PROJECTS

AI-Powered Wildlife Poaching Detection System ([Repo](#))

- Developed an end-to-end machine learning system combining **YOLOv8 object detection** on satellite imagery and **Isolation-Forest–based anomaly detection** on GPS collar data.
- Engineered movement-based features including speed, acceleration, and direction change to identify abnormal animal behavior and achieved a 78% F1-score.
- Implemented a multi-modal alert fusion engine using spatial proximity and temporal analysis to generate prioritized alerts.
- Built interactive Folium maps to visualize detections, anomalies, and threat zones, enabling scalable monitoring and rapid response.

SafeTrack – Urban Safety Analytics System ([Repo](#))

- Designed and implemented a **machine-learning geospatial analytics model** to classify urban safety risk levels (Low/Medium/High) using Indian crime data.
- Applied **LightGBM classification** with feature engineering on time-of-day, crime category, and city-level risk indicators to achieve **75–85% accuracy**.
- Developed the system for **ethical urban planning and safety research**, aligned with **UN SDG-5 and SDG-11**.

AI Pothole Detection System ([Repo](#))

- Developed a **computer-vision deep-learning solution** to detect potholes from images and video feeds in real time.
- Implemented automated **mapping and location marking** to support repair prioritization and maintenance scheduling.
- Designed a **web-based visualization interface** for scalable and cost-efficient smart-city road monitoring.

Simple E-Commerce Application (MERN Stack)([Repo](#))

- Built a full-stack e-commerce application using **MongoDB, Express.js, React, and Node.js** with product listing and cart management features.
- Developed **RESTful APIs** for product and cart operations and implemented **dynamic state handling** in React.
- Deployed the **backend on AWS (EC2)** and the **frontend on Vercel**, ensuring scalable, production-ready deployment.

Appointment Booking System (Spring Boot) ([Repo](#))

- Developed a full-stack appointment booking system using Spring Boot (Java), Maven, and HTML/CSS.
- Implemented RESTful services and backend business logic to support booking, cancellation, and schedule availability workflows.
- Improved automation and reduced manual coordination through structured backend design.

SKILLS

Programming Languages: C, C++, Python, Java

Web Development & Technologies: HTML, CSS, JavaScript, MERN Stack (Basics): React.js, Node.js, Express.js, Spring Boot

Databases: MySQL, MongoDB

Cloud & Deployment: AWS (EC2, S3), Vercel

Tools & Platforms: Git, GitHub, VS Code, WordPress, Canva, MS Word, Excel, PowerPoint

CERTIFICATIONS

Certifications: DSA using C/C++ (Udemy), Java Basics (Oracle), Java on Azure (Microsoft), Full-Stack AI Projects (Udemy)

CODING PROFILES

SkillRack: 840+ problems solved | 239+ Bronze Awards | [Link](#) | **LeetCode:** 50+ problems solved | [Link](#)

COMPETITIONS AND TECHNICAL ACTIVITIES

- **Hack ML Hackathon:** Secured **1st Place** for developing *SafeTrack*, an AI-based urban safety analytics system addressing crimes against women using machine learning.
- Participated in **college-level hackathons and technical project reviews**, presenting AI/ML and full-stack solutions.
- Actively engaged in **coding platforms and problem-solving competitions**, strengthening algorithmic thinking and logical reasoning skills.

ENTREPRENEURIAL EXPERIENCE

Founder – Havox. Founded a streetwear clothing brand and built a production-ready WordPress e-commerce website with Razorpay payment integration. ([havox.in)](#)

LEADERSHIP ROLES

Secretary, Mentoring Vertical – Sri Eshwar College of Engineering

School Pupil Leader – St. Mary's Anglo Indian Higher Secondary School

RELEVANT COURSEWORK

Data Structures and Algorithms, Object Oriented Programming, Database Management Systems, Operating Systems, Computer Networks, Software Engineering