

Ayush Raj

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EDUCATION

Cochin University of Science and Technology

Cochin, India

B.Tech in Computer Science and Engineering (Final Year)

Oct. 2022 – Jul. 2026

- CGPA: 9.6/10 — Top 10% in Batch
- Represented India at **European Rover Challenge 2024** (World Rank: 18)

INTERNSHIP/EXPERIENCE

Full Stack Intern

Jul. 2025 – Present

Smartcard AI

Cochin, India

- Built a RESTful API backend to integrate 5+ different data sources (PostgreSQL, MySQL, Spreadsheet, etc.) into the Smartcard AI dashboard.
- Designed dynamic visualizations for selected data & generated AI-driven insights with the Gemini API from user prompts to support effective decision-making.
- Enhanced the backend by implementing token-based authentication and developed a demo trial booking system to guide users on how to use the Smartcard AI platform.

PROJECTS

Saarthi ([Live Demo](#)) | *Node.js, Express.js, MongoDB, Gemini API*

- Developed an educational platform with a RESTful API backend with EJS, integrated Gemini API, implemented Passport authentication, and used MongoDB for user access tracking.
- Developed a **syllabus generator, AI-powered chatbot, vision-based problem-solving tool, and quiz generator** using the Gemini API, along with 10+ additional advanced features.

WasteBuddy ([Live Demo](#)) | *Node.js, Express.js, MongoDB, Groclake*

- Built an AI-powered platform for smart waste management that uses image recognition (15+ waste categories) and a chatbot to help users identify and recycle waste.
- Implemented a **Waste Marketplace** with a credit system to incentivize proper disposal and optimize collection, while redirecting organic waste to food banks.

TrackSmart ([Live Demo](#)) | *Express.js, REST API, PostgreSQL, Nodemailer*

- Developed a **BECKN-compliant** full-stack logistics tracker using multi-tier architecture, providing real-time shipment visibility across multiple carriers.
- Implemented 1 customized dashboards for each merchants and consumers, enabling real-time, map-based shipment tracking via the OpenStreetMap API to improve transparency and efficiency.

LEADERSHIP AND RESPONSIBILITIES

Team Lead

Oct. 2024 – Jun. 2025

Horizon Mars Rover, CUSAT

Cochin, India

- Led a team of 50+ members in building a semi-autonomous Mars Rover for ERC 2024.
- Coordinated Agile development; managed sprints and technical deliverables.

ACHIEVEMENTS

Hackathons: Winner of 5 hackathons (GDG, MLH, Inovact, Infosys) competing against 600+ participants.

Awards: Jury's Choice at Accenture AIC; Finalist at DevsHouse'24, VIT Chennai.

Coding: Solved 150+ DSA problems on LeetCode and HackerRank.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, SQL, NoSQL, HTML/CSS

Frameworks: Node.js, Express.js, React.js, Flask

Databases: MySQL, MongoDB, PostgreSQL

Developer Tools: Git, GitHub, Docker, REST APIs, CI/CD, AWS, Postman, JWT, Linux, Gemini API

Core Concepts: Data Structures, Algorithms, OOP, OS, Networking, AI/ML, Agile, Backend Development