AMBIKA MALGAYA

AI / PRODUCT ENGINEERING | PYTHON • TYPESCRIPT • REACT • LLMs

[redacted] | [redacted] | Bengaluru, India | GitHub | LinkedIn | LeetCode

PROFILE

Data Science undergraduate at IIT Madras building toward AI product engineering, with hands-on experience in Python backend systems, APIs, databases, and AI/LLM workflows. Interested in the boundary between people and AI—how systems can help users create, review, steer, accept, undo, and iterate on work. Strong problem-solving foundation with 300+ DSA problems and a bias toward practical, well-documented software.

EDUCATION

Indian Institute of Technology Madras (IIT Madras) Expected Graduation: 2028

B.S. in Data Science and Applications — CGPA: 7.7/10

Relevant coursework: Programming, Data Structures and Algorithms using Python (Grade S) · Modern Application Development Project (Grade S)

TECHNICAL SKILLS

AI / LLM: LLM application development, AI-assisted coding, agentic workflow concepts, prompt-driven product workflows

Languages: Python, JavaScript, TypeScript, SQL

Frontend / Product UI: React, Next.js, interactive web application development

Backend: FastAPI, Flask, Node.js, REST APIs, JWT Authentication

Data / Infra: PostgreSQL, MySQL, SQLite, Redis, Git, Docker, Docker Compose, Linux

CS Fundamentals: Data Structures & Algorithms, OOP, DBMS, Operating Systems

PROJECTS

Darukaa.Earth | *FastAPI, PostgreSQL, Redis, SQLAlchemy, Docker, React* GitHub

- Built the backend for a geospatial data analytics MVP, designing API flows and persistent data models while keeping the product scope focused on a working core.
- Implemented authentication, database migrations, PostgreSQL persistence, and Redis-backed supporting services; containerized development with Docker Compose.
- Owned integration debugging across backend, database, dependencies, and deployment configuration, including diagnosing migration and PostgreSQL issues during deployment.
- Worked across the React frontend and FastAPI backend to understand product behavior end-to-end rather than treating the API in isolation.

TrekMate — Trekking Management Platform | *Python, Flask, SQLAlchemy, SQLite, Bootstrap* GitHub

- Designed a **role-based** product with Admin, Staff, and Trekker workflows, translating real business rules into interactive application behavior and data constraints.
- Implemented booking lifecycle logic that validates availability, prevents duplicate/overbooked slots, and keeps trek capacity and booking status consistent.
- Built automatic slot-count updates and cascading status changes so related trek, booking, and participant records remain synchronized as state changes.
- Modeled relational data and validation rules to prevent inconsistent or orphaned records, emphasizing dependable state transitions.

AI / TECHNICAL EXPERIENCE

- Explored AI/LLM development beyond basic tutorials, including model integration, streaming, middleware concepts, summarization workflows, and agentic / multi-step application patterns.
- Use AI tools as part of the coding workflow for debugging, implementation, exploration, and iteration, while validating generated code against actual system behavior.
- **Stera SDK:** worked with MCAP and image/video processing in Python, debugging NumPy and OpenCV integration issues.
- **Healthcare Data Analysis:** imported a hospital appointment dataset into PostgreSQL, resolved encoding and column-mismatch issues, and prepared the data for dashboard analysis.

ACHIEVEMENTS

- Solved 300+ Data Structures & Algorithms problems across LeetCode, GeeksforGeeks, and HackerRank.
- Participant, AWS PartyRock Hackathon, PW Institute of Innovation (IOI) — exposure to software, data, AI, and technology project work.