

Maharishi M

maharishi6002@gmail.com | +91 6384819798 | github.com/Rishiey-txt | linkedin.com/in/maharishi2006

SUMMARY

Computer Science undergraduate pursuing Software Development Engineer roles, with hands-on experience building REST APIs, full-stack web applications, and real-time computer-vision/robotics pipelines in Python, C++, and JavaScript. Skilled in backend development (FastAPI, Node.js/Express), data structures & algorithms, Git/GitHub, Docker, CI/CD pipelines, and NoSQL data stores, with a strong foundation in object-oriented design, debugging, and system integration.

EDUCATION

Sri Sairam Engineering College (Chennai, India) — Integrated M.Tech, Computer Science and Engineering (GPA: 8.4)

Activities: Software Subsystem Member, Ad Astra Rover Team (Sri Sairam Techno Incubation Center)

Expected Graduation: May 2029

TECHNICAL SKILLS

- **Languages:** Python, C++, SQL, JavaScript, HTML/CSS
- **Frameworks & Libraries:** ROS 2 (Humble), YOLO, OpenCV, NumPy, FastAPI, Next.js, Node.js, Express.js, React
- **Tools & Platforms:** Git, GitHub, Docker, CI/CD, REST APIs, Multithreading, Serial/Embedded Interfaces, Vector Databases, Ollama, Label Studio, Google Colab, MongoDB Atlas, Postman, Railway, DBMS, PHP
- **Concepts:** Object-Oriented Programming (OOP), Data Structures & Algorithms, System Design

PROJECTS

Advanced Lane Follower — Real-Time Vision & Control System

Python, OpenCV, NumPy, PySerial, Pure Pursuit Control

- Engineered a real-time lane-keeping system for an Ackermann vehicle, translating camera frames into steering and drive commands at 20 Hz.
- Designed an exposure-adaptive perception pipeline and polynomial lane tracking, achieving 97.9% accuracy on a 1.9K-frame benchmark.
- Implemented a pure-pursuit controller and non-blocking serial link, optimizing processing to a 7.9 ms mean frame time with zero overruns.

Autonomous Rover Perception & Tracking Pipeline

ROS 2, Python, YOLO, OpenCV, Label Studio, Google Colab

- Integrated a custom YOLO-based object detection pipeline with the ROS 2 Humble navigation stack for the Ad Astra Rover Team.
- Trained computer vision models on custom-annotated datasets to reliably identify terrain obstacles and specific task elements.
- Synchronized multi-sensor streams using ArUco markers and 3D depth sensing, effectively eliminating coordinate drift in the robot's base_link frame.

Call Center Compliance & Analytics API

Python, NLP, LLMs, Vector Databases, REST APIs

- Engineered a real-time compliance REST API, processing Base64-encoded audio into automated SOP evaluations and BI analytics.
- Built an AI pipeline (Speech-to-Text and NLP) to extract metrics, score sentiment, and classify mixed-language (Tanglish/Hinglish) data.
- Secured API endpoints with custom authentication and indexed transcripts in a vector database for scalable semantic search.

AURA — Local AI Voice Support Companion

FastAPI, Next.js, Ollama, Kokoro-82M, Apple Silicon

- Developed an offline, privacy-focused AI voice companion with a Next.js interface, reducing external data transmission by 90%.
- Integrated FastAPI and Ollama to run local LLMs, optimizing the Kokoro-82M TTS pipeline for sub-second response times on Apple Silicon.

PROFESSIONAL EXPERIENCE

Software Subsystem Member

Aug 2025 – Present

Ad Astra Rover Team, Sri Sairam Techno Incubation Center (Chennai, India)

- Collaborated on the Software Test Plan and core automation logic for technical milestones including telemetry integration and dashboard systems.
- Contributed to multi-disciplinary technical documentation and environment setups for local ROS 2 robotics development platforms.

LEADERSHIP & ACTIVITIES

Team Leader — National-Level Competitive Programming Contest

May 2026

- Led team strategy for competitive programming structures and algorithmic problem-solving across contest rounds.

CERTIFICATIONS & AWARDS

- LeetCode 50 Days Badge (2025) — Consistent algorithmic problem-solving for 50+ days.
- CrewAI Certification — Multi-agent systems and AI-driven automation frameworks.
- Internshala Web Development Certified Training — 8-week course covering HTML, CSS, Bootstrap, PHP, JavaScript, React & DBMS.