Aditya Sinha

dev.adityasinha2006@gmail.com | Bengaluru, India | GitHub | LinkedIn | Portfolio

Education

Manipal Institute of Technology	Bengaluru, India
B.Tech Electronics and Computer Engineering	Aug 2024 – 2028
Sri Chaitanya Techno School	Bengaluru, India
Class 10: 96.2%, **Class 12**: 87.8%	2017 – 2024

Professional Experience

Centre of Excellence - MAVRO	Manipal Institute of Technology, Bengaluru
AI/ML & Robotics Student Team Member	April 2025 – Present

- Selected for the flagship **autonomous vehicle** student project directly overseen by the Director.
- Learning **Reinforcement Learning (RL)**, **ROS2**, **Computer Vision**, and sensor integration independently.
- Contributed to project **development planning** and company proposal drafting for funding.

Technical Skills

Languages: Python, Java, C, HTML, CSS
Libraries/Frameworks: TensorFlow, scikit-learn, MediaPipe, OpenCV, NumPy, Pandas
Development Tools: GitHub, Linux, Docker, ROS2 (learning)

Projects

Real-Time Hand Gesture Recognition System (View on GitHub)	Personal Project
Python, TensorFlow, scikit-learn, MediaPipe, OpenCV	May 2025 – June 2025

- Developed a real-time **hand gesture recognition** system detecting gestures like **Hello**, **I Love You**, **Thumbs Up**, **Dislike**, and **OK**.
- System is **extensible**: new custom gestures can be added by collecting additional data.
- Extracted hand landmarks with **MediaPipe**, structured data with **scikit-learn**, trained a custom model with **TensorFlow**.
- Implemented real-time visual feedback with **OpenCV** and integrated **offline TTS** for audio feedback.

Additional Details

- Planning to build a personal **AI chatbot** for my portfolio using **LangChain**, **LLMs**, and agent-based techniques.
- Exploring a wearable **gesture recognition glove** project inspired by research from **MIT, USA**.
- Independently practicing **ROS2**, **Gazebo** simulations, and integration of **LiDAR**, **Radar**, and **Camera** sensors.