SHRAVAN SHENOY

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EDUCATION

University of Southern California — Los Angeles, California
Master of Science in Computer Science — January 2025-December 2026

- Completed Information Retrieval and Analysis of Algorithms courses with a GPA of 3.65 (on a scale of 4)

R.V. College of Engineering — Bangalore, India
Bachelor of Engineering (B.E.) — August 2020-May 2024

- B.E. in Computer Science Engineering (CSE). Enrolled in 2020 and graduated in 2024 with a GPA of 9.05 (on a scale of 10)

EXPERIENCE

Dynamic Robots and Controls Laboratory, University of Southern California (USC) — Los Angeles, California
Research Engineer — February 2025-Present

- Developed a real-time vision pipeline using SAM2 for object state estimation on Jetson Orin Nano, integrating YOLO-based initialization, ONNX and TensorRT optimization, OWL-ViT fallback, and ROS2 deployment; achieved 10–16 FPS with robust tracking under camera vibration, drift and occlusion
- Engineering a modular, open-source plug-and-play module for segmentation-based object tracking, featuring heuristic mask post-processing, Kalman filtering, and contextual prompting for fault-tolerant control policy inputs on edge devices

Netradyne Technologies Pvt. Ltd — Bangalore, India
Software Developer Intern — February 2024-November 2024

- Created an edge infrastructure framework for device performance analysis utilising interactive visualizations, tables and dynamic graphs to enhance diagnostics of system performance metrics (CPU and GPU usage) for over 10,000+ devices
- Created an automated LLM-based Root Cause Analysis tool to streamline debugging of field-related system issues, leveraging thresholding data, contextual log data and system data to identify deviations and patterns of abnormalities
- Reduced troubleshooting time by 20-25% and boosting scalability across large datasets of devices through above two frameworks

Robotics Innovations Lab, Indian Institute of Science (IISc) — Bangalore, India
Research Intern — April 2023-December 2023

- Implemented algorithms for 'Safe and Energy-Efficient Motion Planning in Human-Robot Collaboration (HRC)' leveraging vision-based gesture recognition and task space mapping, and comparing with baseline algorithms (RRT and GDA)
- Focused on pose estimation for static safety zones and applied multi-objective convex optimization techniques
- Designed a teleoperation-based framework integrating human intent recognition for trajectory planning, balancing safety and productivity
- **Publication**: Paper accepted for publication in Robotica (Q1) Journal (doi:10.1017/S0263574725000323)

ACADEMIC PROJECTS

Robothon E-Waste Segregation Challenge 2023 (TU Munich)

- Programmed a 6-DOF robotic manipulator system for autonomous e-waste segregation on a custom platform, achieving 9th place overall by completing 4 out of 6 tasks successfully.
- Integrated a YOLO-based computer vision pipeline using a RealSense camera for real-time object detection and task categorization

Lung Cancer Metastasis Prediction Using Ensemble Learning

- Predicted metastasis probability and life span using AdaBoost, Gradient Boosting Classifier, and Random Forest on the SEER database
- Focused on utilizing textual data for impactful healthcare predictions

SKILLS

Language: Python, C++
Framework & Platform: PyTorch, ROS, MATLAB, OpenCV, Linux Programming, Pandas, ONNX, Git, TensorRT
Soft Skills: Leadership, Teamwork and Collaboration, Public Speaking, Communication, Problem-Solving & Analytical Thinking

HONORS & AWARDS

- ICRA Metrics Adapt Challenge 2023 (Similar to Robothon) - 1st place overall
- Australs International Parliamentary Debate 2022 - 14th place overall
- School Prefect (Student Leader) at National Public School, 2019