

# SHRAVAN SHENOY

Los Angeles, California | (213) 477-0602 | [shravan.shenoy111@gmail.com](mailto:shravan.shenoy111@gmail.com) | [LinkedIn](#)

## EDUCATION

### University of Southern California

*Master of Science, Computer Science*

**Jan 2025 - Dec 2026**

*Los Angeles*

- **GPA:** 3.65 (on a scale of 4)
- **Coursework:** Web Technologies, Analysis of Algorithms, Database Systems

### R.V. College of Engineering

*Bachelor of Engineering (B.E.), Computer Science Engineering (CSE)*

**Aug 2020 - May 2024**

- **GPA:** 9.05 (on a scale of 10)

## EXPERIENCE

### Dynamic Robots and Controls Laboratory, University of Southern California (USC)

*Applied Researcher*

**Feb 2025 - Present**

*Los Angeles, California*

- Engineered a vision-language segmentation pipeline using SAM2 and fallback detection via OWL-ViT, enabling robust object tracking and centroid estimation for bipedal robot soccer.
- Benchmarked performance and stability of multiple segmentation models (SAM2 variants, MobileSAM, FastSAM), analyzing mask accuracy and inference speed on edge devices (Jetson Orin Nano).
- Prototyped a modular evaluation pipeline for segmentation consistency and drift handling, using post-processing heuristics and Kalman filtering to improve temporal mask stability.

### Robotics Innovations Lab, Indian Institute of Science (IISc)

*Research Intern*

**Apr 2023 - Dec 2023**

*Bangalore, India*

- Researched vision-based human-robot collaboration (HRC) for safe motion planning, implementing gesture-based interaction, pose estimation, and static safety zone segmentation, evaluated against RRT and GDA baselines.
- Developed a teleoperation-driven trajectory planning framework using multi-objective convex optimization to balance productivity and safety, applying analytical methods to model human intent and spatial constraints.
- Publication: Paper accepted for publication in Robotica (Q1) Journal (doi:10.1017/S0263574725000323)

### Netradyne Technologies Pvt. Ltd

*Software Developer Intern*

**Feb 2024 - Nov 2024**

*Bangalore, India*

- Built an edge infrastructure and diagnostics pipeline for 10,000+ devices, with real-time CPU/GPU metrics and dynamic graphs for debugging field systems.
- Developed roadmap for a large language model (LLM)-based Root Cause Analysis system, combining preference signals, log analysis, and thresholding for failure mode classification across fleet-wide devices.
- Explored prompt engineering and feedback modeling to simulate preference-driven RCA outputs; inspired by RLHF-like learning techniques.

## ACADEMIC PROJECTS

### Vision-Based Soccer Robot

- Designed and deployed a ROS2-integrated object state estimator for training a biped robot to play soccer, featuring real-time centroid tracking, dynamic fallback logic using LLMs, and TensorRT-accelerated inference on edge devices like Jetson Orin
- Evaluated robustness of fallback vision-language prompts using LLMs across varying ball motion and lighting conditions

### 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

## SKILLS

- **Languages:** Python, C++
- **Frameworks & Tools:** PyTorch, TensorRT, ONNX, OpenCV, ROS, Git, Pandas
- **ML Topics:** Vision-Language Models, Transformer-based Models (OWL-ViT), LLM-based Pipelines, Machine Learning, Data Analysis, Large Language Models, Computer Vision

## 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