Manasvini Srinivasan

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Robotics and Automation Engineer with expertise in motion control,machine vision and system integration for robotic and industrial automation.

EDUCATION

Boston University, *MS in Robotics and Autonomous Systems* Dec 2024

Relevant Courses: Machine Learning, Deep Learning, Image and Video Computing, Robot Learning, Motion Planning.

College of Engineering, Guindy, Anna University, *B.E in Electronics and Communications Engineering*

EXPERIENCE

Endox AI, *Robotics Software Engineer (Contractor)* | On-site (Boston, MA) June 2025 - Present

- Integrated a Vision-Language-Action (VLA) model with a UR5e robotic arm to translate natural-language commands into executable motion plans.
- Implemented real-time motion execution in ROS + URScript, debugging singularities, workspace edge cases, and timing issues.
- Deployed the complete perception and control stack on an NVIDIA Jetson Orin, optimizing inference latency and real-time performance for autonomous manipulation.
- Calibrated coordinate frames, tuned trajectories, and refined end-effector paths to improve precision.

Redwire Space, *Software and Robotics Intern* | On-site (Jacksonville, FL) June 2024 - September 2024

- Built ROS-based motion planning pipelines for a UR5 arm, integrating vision, point clouds, and control loops.
- Programmed URDF/SRDF configurations and motion planners (MoveIt) for autonomous grasping using real-time pose estimation.
- Debugged grasping failures, corrected transform drift, tuned gripper orientation logic, and refined waypoint strategies
- Designed autonomous RPO demos simulating real-world manipulation constraints and dynamic trajectories.

dotSolved Systems Inc, *Software Developer* | Remote (Palo Alto, CA) November 2022 - August 2023

- Designed and maintained a backend service in Python to analyze and optimize Snowflake data pipelines, improving storage and query efficiency by 30–40%.
- Built scalable modules for data ingestion, transformation, and cost analysis relevant to cloud-based robotic telemetry processing.
- Adopted industry-standard practices in CI/CD, unit testing, and version control to ensure robust production releases.

Waycool Technologies Inc, *ML Engineer* | Chennai, India June 2021 - September 2022

- Enhanced an image classification pipeline for food grain quality assessment, deploying custom-trained TensorFlow models to production.
- Developed and integrated APIs for effective backend and frontend communication.
- Developed RESTful APIs for model inference, integrating front-end interfaces with the backend ML services.
- Streamlined SQL-based data access and annotation workflows, optimizing model training cycles.

SKILLS

Languages/Frameworks	Python, C++, MATLAB, SQL, Tensorflow,Pytorch, OpenCV, Arduino.
Developer Tools and Environments	CARLA,Autoware, Robot Operating System (ROS), Linux.
Robotic Skills	Practical experience with 3D printing, and creating electronic prototypes.

PROJECTS

Deep Reinforcement Learning for Robot Navigation | Boston, MA Sep 2023 - Dec 2023

- Implemented and trained three Deep Reinforcement Learning (DRL) models (TD3, PPO, and SAC) for robot navigation in a simulated environment using ROS Gazebo.
- Designed neural networks to enable a robot to navigate to random goal points while avoiding dynamic obstacles, using laser sensor data and goal positions in polar coordinates.

PUBLICATIONS

• **M. V. Srinivasan et al.**, "Deferrable Irrigation Load Optimization in Rural Microgrid Clusters," *2022 IEEE Conference on Technologies for Sustainability (SusTech)*, Corona, CA, USA, pp. 125-131. DOI: 10.1109/SusTech53338.2022.9794162