Yash Srivastava

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Professional Summary

Robotics Software Engineer with a Master's in Robotics from Georgia Tech, specializing in autonomy for mobile robots and real-world robotic systems. Experienced in building and deploying perception, planning, and control pipelines, with hands-on experience integrating sensors, embedded compute, and robotic hardware.

Experience

Robotics Engineer (GROWTTH) - Freudenberg NOK Sealing Technologies, *Cleveland, GA* Mar 2025 – Jan 2026

- Designed and deployed an automated conveyor monitoring system using through-beam sensors and pilot LED alerts, reducing idle time and improving throughput by 25%.
- Led development of a Kanban-based inventory monitoring system, owning software development and sensor interfacing, and coordinating hardware integration; delivered $1.2k in annual labor savings and reduced risk of production stoppages.

Robotics AI R&D SWE Intern - United Parcel Service, *Atlanta, GA* Jul 2024 – Mar 2025

- Built an AI-based human parcel counting model leveraging YOLOv8 pose estimation and computer vision feature extraction, processing warehouse-scale video streams in near real-time with $>85\%$ accuracy.

Systems Engineer Intern - DroneUp, *Virginia Beach, VA* June 2023 – Aug 2023

- Developed and validated a PX4-SITL–based safe navigation proof-of-concept in C++ for autonomy using Artificial Potential Fields and MAVLink-based communication, and led cross-team coordination for LTE antenna deployment.

Graduate Teaching Assistant - Georgia Institute of Technology Aug 2023 – May 2024

- Supported 50+ graduate students across robotics disciplines through instruction, office hours, and maintained a fleet of 45+ TurtleBot3 AMRs, including creating and deploying a standardized OS image for reliable lab operation.

Skills

Robotics & Autonomy: ROS2, Motion Planning, State Estimation, Sensor Fusion, Controls, Mobile Robots
Programming: Python, C++, MATLAB
Perception & AI: Computer Vision, Deep Learning, YOLO, OpenCV, NumPy, PyTorch
Simulation & Systems: Docker, Gazebo Sim, Linux, Git
Embedded & IoT: Raspberry Pi, Arduino, ESP32, Pixhawk

Education

Georgia Institute of Technology - Atlanta, GA GPA: 3.93
Masters in Robotics (Artificial Intelligence, Control Systems, Perception) *Aug 2022 – May 2024*

Vellore Institute of Technology - Chennai, India GPA: 9.03/10
Bachelor of Technology, Electronics and Computer Engineering *July 2018 – May 2022*

Select Projects

Navigation using Computer Vision and Machine Learning for AMRs

- Designed a Finite State Machine (FSM)-based navigation stack for differential-drive AMRs using ROS2, integrating LiDAR sensing, odometry, and onboard compute for collision avoidance.
- Implemented edge-deployed road sign detection using a trained SVM classifier, selected for higher accuracy and real-time performance, achieving 90% accuracy for perception-driven decision making.

Capstone Project: Drone Surveillance System for Poachers and Wildlife

- Built a drone-based anti-poaching system using a Raspberry Pi–Arduino setup, implementing ArduPilot GUIDED-mode waypoint navigation with stereo-vision and ultrasonic-based collision avoidance.
- Developed a Dockerized Gazebo simulation to validate the autonomy pipeline prior to hardware integration; simulated a wireless sensor network in MATLAB and implemented Deep Learning–based poacher and animal detection.

Quadrotarium: Testbed for Remotely Accessible Aerial Swarms

- Developed the core software and systems infrastructure for a ROS2–based Crazyflie swarm drone testbed at Georgia Tech.
- Enabled 24×7 autonomous drone operations by implementing a FSM-based scheduled charging system with Barrier Certificates for collision-free trajectories.

Achievements & Publications

IEEE Access (2024): "Unmanned Aerial Surveillance and Tracking System in Forest Areas for Poachers and Wildlife."

Outstanding Presentation Award: "Autonomous Bot with ML-Based Reactive Navigation", Robotics, Intelligent Automation and Control Technologies 2021 (Conference).

Avionics Lead, Team Aviators International (VIT Chennai): Led the development of the team's first autonomous UAV.