Yash Srivastava

Portfolio: yash14s.github.io | GitHub: github.com/yash14s | LinkedIn: linkedin.com/in/yash14s

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PROFESSIONAL SUMMARY

UAV autonomy and robotics systems engineer with Georgia Tech graduate training and hands-on experience designing, building, and integrating complete UAV platforms. Proven simulation-to-hardware deployment of PX4/ArduPilot-based navigation, perception, and swarm autonomy.

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*

SKILLS

UAV Autonomy: PX4, ArduPilot, MAVLink, SITL, Mission Planning, Waypoint Navigation
Robotics & Controls: State Estimation, Sensor Fusion, Motion Planning, Controls, Mobile Robots, Swarms
Programming & Systems: Python, C++, MATLAB, ROS2, Docker, Gazebo Sim, Linux, Git
Perception & AI: Computer Vision, Deep Learning, YOLO, OpenCV, NumPy, PyTorch
Embedded: Raspberry Pi, Pixhawk, Arduino, ESP32

EXPERIENCE

Robotics Engineer (GROWTTH) - Freudenberg NOK Sealing Technologies, *Cleveland, GA*   Mar 2025 – Jan 2026
- Designed and deployed real-time monitoring and Kanban-based inventory systems, owning sensor interfacing, embedded logic, and software integration, improving throughput by 25% and reducing production stoppage risk.

Systems Engineer Intern - DroneUp, *Virginia Beach, VA*   June 2023 – Aug 2023
- Developed and validated a PX4-SITL–based UAV autonomy proof-of-concept using Artificial Potential Fields for collision avoidance, integrating MAVLink-based communication and mission execution; coordinated LTE antenna deployment for long-range (BVLOS) operations.

Robotics AI R&D SWE Intern - United Parcel Service, *Atlanta, GA*   Jul 2024 – Mar 2025
- Built and deployed an AI-based human parcel counting system using YOLOv8 pose estimation, designing a real-time computer vision pipeline processing warehouse-scale video streams with >85% accuracy.

Graduate Teaching Assistant - Georgia Institute of Technology   Aug 2023 – May 2024
- Supported 50+ graduate students across robotics disciplines and maintained a fleet of 45+ TurtleBot3 AMRs, including creating and deploying standardized OS images for reliable lab operation.

SELECT PROJECTS

Capstone Project: Drone Surveillance System for Poachers and Wildlife
- Architected and built a complete UAV platform from scratch, owning hardware selection and systems integration (airframe, propulsion, ESCs, battery, GPS, sensors, companion computer).
- Integrated ArduPilot-based autonomy with MAVLink communication, implementing GUIDED-mode waypoint navigation and multi-sensor collision avoidance; validated via Dockerized Gazebo simulation prior to hardware deployment and field testing.

Quadrotarium: Testbed for Remotely Accessible Aerial Swarms
- Developed the core software and systems infrastructure for Georgia Tech's ROS2–based Crazyflie swarm drone testbed.
- Enabled 24×7 autonomous drone operations by implementing a FSM-based scheduled charging system with Barrier Certificates for collision-free trajectories.

Navigation using Computer Vision and Machine Learning for AMRs
- Designed a Finite State Machine (FSM)-based navigation algorithm for differential-drive AMRs in GPS-denied environments using ROS2, leveraging LiDAR distance data and dead reckoning 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.

ACHIEVEMENTS & PUBLICATIONS

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

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

IEEE Photonics Project Expo 2021: 1st Prize for Autonomous UAV Flight.