

# Saiteja Venkateshwa Rao Dasari

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## SUMMARY

MS Robotics & Autonomous Systems @ ASU (GPA 3.89) with experience in UAV controls, ROS/ROS2 autonomy, and OpenCV-based perception across simulation and hardware. Built a multi-robot ROS2 + Gazebo TurtleBot system (Hungarian allocation + A\* planning) and developing fault-tolerant Crazyflie control for single-motor failure recovery using FDI and controller reconfiguration.

## EDUCATION

### Arizona State University

Aug. 2024 – 2026

*M.S. Robotics and Autonomous Systems (Systems Engineering), GPA: 3.89*

Tempe, AZ

- **Relevant Coursework:** Systems Engineering, Aerial Robotics, Mechatronics, Multi-Robot Systems, Soft Robotics

### Chaitanya Bharathi Institute of Technology

Aug. 2020 – 2024

*B.E. Electrical and Electronics Engineering*

Hyderabad, Telangana

## PROJECTS

### Fault-Tolerant Control of Crazyflie Quadrotor

Present

- Developing a fault-tolerant control system for a Crazyflie quadrotor to maintain stable flight during single-motor failure using fault detection/isolation and controller reconfiguration, validated through simulation-to-hardware testing

### Multi-Robot Task Allocation & Navigation

Dec. 2025

- Built a multi-robot ROS2 and Gazebo TurtleBot simulation with centralized task management, implementing Hungarian task allocation and A\* planning and costmap inflation for collision-aware, efficient concurrent mission execution

### Crop Weed Detection using ROSMaster X3

May 2025

- Deployed an ML weed-vs-crop detector on ROSMaster X3 (ROS) to support precision agriculture
- Integrated real-time inference and visualization nodes to publish detections for downstream robot actions

### Autonomous Drone Landing on a Moving Platform

May 2025

- Simulated flight dynamics in MATLAB/Simulink (digital twin) and designed control logic for landing sequences
- Implemented onboard vision tracking on a Parrot Mambo to land on a moving color-tagged platform

### Maze Solving & Path Planning using 6-DOF myCobot600 Robot Arm

Dec. 2024

- Built a vision pipeline for maze detection/segmentation and generated an occupancy-grid representation for planning
- Computed paths using A\* and executed waypoint trajectories through integrated myCobot600 motion control

## EXPERIENCE

### Honeywell Extern

Aug. 2025 – Present

*Arizona State University Collaborative Research Project*

Tempe, AZ

- Built an AI-driven Air Traffic Controller training dashboard with Honeywell Aerospace, integrating LLM-based pilot simulations, communication analytics, and performance visualizations

### Teaching Assistant / Instructional Aide

Jan. 2025 – Present

*Arizona State University (MATLAB Programming; Controls & Systems Lab)*

Tempe, AZ

- Conducted weekly office hours; supported MATLAB programming and controls labs; assisted grading and delivered review lectures to reinforce core concepts

### Production Engineering Intern

Oct. 2023 – Mar. 2024

*Marut Drones (IIIT-Hyderabad)*

Hyderabad, Telangana

- Assembled and validated electronic/mechanical subsystems across multiple drone platforms; led quality checks and bench testing for reliable builds and increased efficiency by 2%
- Supported a P80 heavy-payload drone; configured ArduPilot/Mission Planner and improved flight performance via PID tuning with log analysis by 5%

## SKILLS & CERTIFICATIONS

**Programming:** C, Python, MATLAB

**Robotics:** ROS1/ROS2, Gazebo, RViz, TF, URDF, Linux, Git, ArduPilot, Mission Planner

**Autonomy/Perception:** A\*, Hungarian Allocation, Costmaps, Occupancy Grid, Motion Planning, OpenCV, Detection/Tracking

**Controls:** PID Tuning, MATLAB/Simulink, FDI, Controller Reconfiguration, Flight Log Analysis

**Certifications:** Hugging Face RL; Udemy ROS/ROS2

**Publication:** SCADA-Based Substation Control Panel & Operations