Shreeram Murali

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EDUCATION

Master of Science (M.Sc.) Automation and Electrical Engineering   Espoo, Finland
Aalto University   *Aug 2023 – present*
- **Major**: Control, Robotics, and Autonomous Systems
- **Minor**: Computer Science
- Received the Aalto University Category A Scholarship (100%)

Bachelor of Engineering (B.Eng.), Mechanical Engineering   Bangalore, India
Ramaiah Institute of Technology   *Aug 2017 – July 2021*
- **GPA**: 9.37/10, Graduated First Class (1st) with Distinction

EXPERIENCE

Research Engineer   August 2021 – *present*
Indian Institute of Science   **.in**
Data Augmented Control of Autonomous Systems (DACAS) Lab

- Wrote ROS subscriber-publishers for implementing an experimental control strategy using Python and C++ to run at 30–60 Hz
- Implemented a computationally lightweight vision-based feature tracking method using fiducial markers and colour thresholding using OpenCV with computation time less than 0.002 seconds
- Collected experimental data of drone flight over several randomised trajectories for system identification (learning the model through an auto-encoder)
- **Skills**: *Python, ROS, MATLAB, C++, Jetson, Numba/JIT, Pandas, OpenCV, Threading*

Software Engineer Intern (IoT)   Feb 2021 – July 2021
Tata Consumer Products   **.in**

- Wrote python scripts to run automatically on Raspberry-Pi based IoT devices to read café parameters and push to a time-series database
- Deployed an InfluxDB time-series database on AWS cloud and created dashboards for multiple user-cases using Grafana
- Configured multiple IoT devices with detailed documentation to be deployed to cafés for remote monitoring
- **Skills**: *Python, InfluxDB, AWS, Grafana, Raspberry Pi (SoC)*

PROJECTS

Crazypaths | *Python*   [GitHub]

- Package for path planning for nano-drones with motion capture positioning in the control loop. Consists of trajectory visualisation and motion capture SDK integrations. This package was written to facilitate easy integration of asynchronous real-time data streams with control algorithms using zero-order hold.

Edhitha UAS | *Python, C++, SoCs*   [Website]

- Defined an autopilot and flight navigation system, tuned flight's PIDs, and validated system performance with over 20 hours of flight time and 100 hours of simulations

CERTIFICATIONS

- **Probability and Statistics, University of London (Coursera)**: Uncertainty Quantification, Hypothesis Testing, Inference, Monte Carlo methods

SKILLS

Software: Python, C, C++, Scala, MATLAB, SQL, InfluxDB, AWS, HTML, CSS, JavaScript
Robotics: ROS, EcoStructure, SOCs (Pi, Arduino, Jetson), ArduPilot, OpenCV, Gazebo
Languages: English (bilingual native, professionally fluent)