

Shreeram Murali

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EDUCATION

Master of Science (M.Sc.) Electrical Engineering and Computer Science

Aalto University

Espoo, Finland

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

Ramaiah Institute of Technology

Bangalore, India

Aug 2017 – July 2021

- **GPA:** 9.37/10, Graduated First Class (1st) with Distinction
- **Award:** Best Achiever Award class of 2021

EXPERIENCE

Graduate Research Assistant

Aalto University

November 2023 – present

Espoo, Finland

Sensor Informatics and Medical Technology Group

part-time

- Implementing optimal control strategies; simulated the dynamics and control of a rotary inverted pendulum
- **Skills:** Python, JAX, MATLAB, Simulink

Junior Research Fellow

Indian Institute of Science

August 2021 – July 2023

Bangalore, India

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)

Tata Consumer Products

Feb 2021 – July 2021

Bangalore, India

- Wrote scripts to run automatically on Raspberry-Pi based IoT devices to compute 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
- **Skills:** Python, InfluxDB, AWS, Grafana, Raspberry Pi (SoC), technical documentation

PUBLICATIONS

1. Singhal, S., Keshavan, J. and **Murali, S.** (2023) 'Constant optical flow divergence based robust adaptive control strategy for autonomous vertical landing of quadrotors', AIAA SCITECH 2023 Forum, [doi:10.2514/6.2023-1150](#)
2. J. Keshavan, S. Belgaonkar and **S. Murali**, "Adaptive Control of a Constrained First Order Sliding Mode for Visual Formation Convergence Applications," in IEEE Access, vol. 11, pp. 112263-112275, 2023, [doi: 10.1109/ACCESS.2023.3323896](#)

PROJECTS

QTM Wrapper: Python (asyncio, threading, matrix operations) | [GitHub link](#)

2DOF Antenna Vectoring: Python (pymavlink, socket) | [GitHub link](#)

SKILLS

Programming: Python, Scala, C, C++, MATLAB, SQL, InfluxDB, AWS, HTML, CSS, JavaScript

Systems: ROS, JAX, JEcoStruxure, SOCs (Pi, Arduino, Jetson), ArduPilot, Gazebo, Simulink

Languages: English