Shreeram Murali

+358 41 587 1040 | shreeram.m@gmail.com | LinkedIn: /in/shreeram-murali/

Education

Master of Science (M.Sc.) Electrical Engineering and Computer Science — Espoo, Finland
Aalto University — *Aug 2023 – present*

- **Major**: Control, Robotics, and Autonomous Systems
- **Minor**: Computer Science
- **GPA**: 4.5/5
- 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

Graduate Research Assistant (part-time) — November 2023 – *present*
Aalto University — Espoo, Finland
Sensor Informatics Group

- Simulated the dynamics and control of a rotary inverted pendulum using JAX
- Implementing optimization algorithms in the context of optimal control, model predictive control
- **Skills**: *Python, JAX, JIT-compilation, MATLAB, Simulink*

Research Software Engineer — August 2021 – July 2023
Indian Institute of Science — Bangalore, India
Data Augmented Control of Autonomous Systems (DACAS) Lab

- Wrote ROS subscriber-publishers for implementing an experimental control strategy for mobile robot navigation 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 quad-rotor flight over several randomised trajectories for system identification and implemented an autoencoder to learn the system dynamics
- Developed a wrapper to facilitate asynchronous streaming of motion capture data
- **Skills**: *Python, ROS, MATLAB, C++, Jetson, Numba/JIT, Pandas, OpenCV, Threading*

Software Engineer Intern (IoT) — Feb 2021 – July 2021
Tata Consumer Products — Bangalore, India

- 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

QTM Wrapper: *Python (asyncio, threading, matrix operations)* | GitHub link
2DOF Antenna Vectoring: *Python (pymavlink, socket)* | GitHub link
Edhitha UAS: UAV for autonomous navigation, air delivery, and imagery | Technical Paper

Skills

Programming: Python, C, C++, Scala, MATLAB
Web Software: HTML, CSS, JavaScript, AWS, SQL (sqlite and PostgreSQL), InfluxDB, Grafana
Systems: ROS, EcoStruxure Automation Expert, SOCs (Pi, Arduino, Jetson), ArduPilot, OpenCV, Gazebo
Languages: English (bilingual native, professionally fluent)