Dhruv Pandit

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Experience

Embedism, Embedded Software Engineer, Contract — March 2025 - June 2025 3 Months

- Interfaced an a custom IC with a micro-controller
- Developed a driver to interpret IC data so that it could be interfaced with the Unity Engine
- Improved sensor accuracy and tracking by 50%
- Implemented functions on a spectrum analyzer using the nRF52
- **Relevant Skills:** ESP32, I2C, Embedded Programming, SEGGER,

Defence Research and Development Organisation, Research Intern — Jan 2023 -June 2023 6 Months

- Worked on a robot locomotion project that included the use of LiDAR based SLAM for obstacle detection and avoidance
- Simulated Ouster-128 LiDAR in Gazebo
- Implemented SLAM and Navigation using NAV2
- **Relevant Skills:** ROS2, Gazebo, SLAM

ioGenies Solutions, Embedded Software Engineer, Intern — June 2022 - July 2022 2 Months

- Interfaced sensor modules using I2C and UART and used the data to detect crashes in a smart helmet
- Created a library that enables embedded devices to communicate with a Smart Meter using the MODBUS communication protocol
- **Relevant Skills:** Embedded C, Bluetooth Communication, C++

Education

MSc **King's College London**, Robotics — January 2025

- **Final Project:** Optimised Locomotion of Bipeds

B.Tech **MIT World Peace University**, Electrical Engineering — June 2023

- GPA: 8.4/10 (Distinction)
- **Capstone Project:** Machine Learning for Control

Projects

Autonomous Aquatic Glider

- Designed and Built an Autonomous Aquatic Glider for environmental monitoring
- Implemented PID control and on-off control to control the pitch angle and depth of the glider using an Arduino and BTS7960 motor controllers
- Interfaced an IMU, SONAR, and Temperature Sensor with the Arduino using I2C and UART
- **Relevant Skills:** MATLAB, Simulink, Embedded Programming, , Electronic Design, Sensor Integration, Communication Protocols, Circuit Design,

Object Detection using ESP32

- Used SPI to interface a camera with an ESP32
- Implemented an object detection program using OpenCV that ran on an ESP32 micro-controller
- **Relevant Skills:** Computer Vision, AI on the Edge, Python, OpenCV, Embedded Systems

Line Following Robot

- Designed an IR sensor array to detect the line and interfaced it with an Arduino Uno Micro-Controller
- Used L293D motor controllers to control the motors and achieve locomotion
- **Relevant Skills:** Embedded Programming, Circuit Design, PID Control, Sensor Integration

Conferences and Workshops

Asian regional workshop on SciTinyML: Scientific Use of Machine Learning on Low-Power Devices
Explored the use of pre-trained machine learning algorithms in embedded systems

Technologies and Skills

Languages: C, C++, Python, Siemens PLC, HTML
Software and Tools: EasyEDA, LabVIEW, Proteus, PyTorch, Embedded C, Rust, ROS, Git, Micro-controllers, Quartus, Linux, PLC, RTOS