Dhruv Pandit

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Experience

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

- Completed a robot locomotion project that included the use of LiDAR based SLAM for obstacle detection and avoidance
- **Relvant Skills:** ROS2, Gazebo, SLAM

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

- Interface various sensor modules using I2C and UART
- Created a library that enables embedded devices to communicate with a Smart Meter using the MODBUS communication protocol
- **Relvant Skills:** Embedded C, Soldering

Education

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

- **Final Project:** Optimised Locomotion of Bipeds
- **Relvant Skills:** PyTorch, Gazebo, MPC, PD Control, Reinforcement Learning

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

- GPA: 8.4/10 (Distinction)
- **Capstone Project:** Machine Learning for Control
- **Relvant Skills:** Simscape, MATLAB, PID

Projects

Autonomous Aquatic Glider

- Designed and Built an Autonomous Aquatic Glider for environmental monitoring in large water bodies up to a depth of 100 metres
- Simulated the glider and the various forces acting on it in Simulink and used said simulation to design the PID controller used to control the glider's pitch angle
- Designed the control loop used by the glider and implemented it using an Arduino micro-controller
- Interfaced various sensors including an IMU using I2C and SONAR using UART
- **Relvant Skills:** MATLAB, Simulink, Embedded Programming, State-Space analysis, Electronic Design, Sensor Integration, Communication Protocols

Handwriting Analysis

- Used scipy and keras to implement the K-Means algorithm on the MNIST dataset for handwriting recognition
- **Relvant Skills:** Python Programming, Machine Learning

Object Detection using ESP32

- Implemented an object detection program using OpenCV that ran on an ESP32 micro-controller
- **Relvant Skills:** Computer Vision, AI on the Edge, Python

Conferences and Workshops

Asian regional workshop on SciTinyML: Scientific Use of Machine Learning on Low-Power Devices

Technologies and Skills

Languages: C, Python, HTML
Software and Tools: Visual Studio, MATLAB, Simulink, LabVIEW, Proteus, PyTorch, ROS, Git, Micro-controllers, Linux, RTOS
Skills PLC Programming, Control Theory, Data Analysis, Circuit Design