

Samuel Amos-Osebeyo

[linkedin.com/in/samuella-o/](https://www.linkedin.com/in/samuella-o/) | 07503087429 | sosebeyo@gmail.com

Skills

- Languages: Python | C/C++
- AI & Machine Learning: PyTorch | YOLO | OpenCV | Scikit-Learn | NumPy | Pandas
- Robotics & Software: ROS2 | Perception | Mapping | Kinematics | Git | Linux
- Hardware & Prototyping: Raspberry Pi | Arduino | ESP32 | KiCad | PCB Design | Soldering | Fusion 360 | Solidworks

Experience

Junior Robotics Intern

Dexory

06/2025

- Designed and validated multi-layer PCBs and firmware for embedded control and sensor systems used in autonomous robots.
- Developed large scale C++ firmware libraries to coordinate I2C communication and telemetry collection.
- Executed comprehensive system-level testing and troubleshooting of electromechanical assemblies, analysing power consumption and communication latency.
- Contributed to improving reliability and data throughput of autonomous robotic systems.

Research Intern

Oxford Robotics Institute

06/2023

- Gained practical insight into the full robotics R&D lifecycle, from academic research to commercial startup development
- Collaborated on a Pick-and-Place robotics research project by designing 3D-printed housing component in Solidworks.

Junior Robotics Intern

Oxford Instruments

07/2022

- Led the design and development of a laboratory trolley for use with cryogenic fridges, taking the project from initial requirements research to a final fully documented prototype.
- Carried out stress analysis with the mechanical team to ensure the design adhered to strict manufacturing floor safety regulations.
- Produced comprehensive technical documentation, including CAD models and a Bill of Materials to support testing and prototyping.
- Presented the complete design process, technical considerations, and trade-offs to senior engineers and technicians, successfully gaining approval for the project's continued development.

Projects

AI and Deep Learning

AI Outfit Recommender (Ongoing)

- Building a multi-modal fashion recommendation system in Python to provide personalised outfit suggestions from the users wardrobe and from social media.
- Implemented a computer vision pipeline using PyTorch, YOLOv8 and Mask R-CNN for garment detection, segmentation and classification from images uploaded by the user.
- Currently developing a multi-level style profiling system to learn users fashion preferences from uploaded inspiration images and other visual data.

Fundamental AI algorithms from scratch

- Built and trained a Multilayer Perceptron and a Convolutional Neural Network from scratch using only Python and NumPy to solidify a deep understanding of core principles.
- Derived and implemented fundamental deep learning theories, including back propagation and momentum-based gradient optimisers.

Robotics and AI

House Helping Robot

- Developed the electromechanical and AI systems for a voice-activated robotic assistant designed to help users with limited mobility.
- Implemented an NLP algorithm to process voice commands and a fine-tuned YOLO model to identify and locate target household objects using an Intel RealSense Camera.
- Developed the control system using Jacobian Inverse Kinematics from scratch to calculate precise joint angles for the custom-built robotic arm, enabling accurate object manipulation.

Search and Rescue Robot

- Designed and developed a tracked Search and Rescue Robot for disaster relief featuring a modular senso system for mission-specific adaptability.
- Developed custom sensor boards and a daisy-chaining I2C protocol which interfaced with a radio transceiver to relay data to a custom GUI.

Samuel Amos-Osebeyo

[linkedin.com/in/samuella-o/](https://www.linkedin.com/in/samuella-o/) | 07503087429 | sosebeyo@gmail.com

Education

A-Level

- Maths: A*, Further Maths: A, Computer Science: A*, Physics: A*

Reading School

09/2022 - 08/2024

Integrated Masters

- Electronic and Information Engineering

Imperial College London

09/2024 - 05/2028

Awards and Achievements

- **Runner-Up in National Engineering Competition:** Runner-Up in the Senior Engineering Category for the Big Bang Competition for my development of the HHR.
- **Siemens Award for Digital Skills:** Awarded for the development of my Search and Rescue robot alongside the Runner-Up award for the Intermediate Engineering category in the Big Bang Competition.