

Abayomi Omotosho-Ikuru

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EDUCATION

Loughborough University

Master of Science, Artificial Intelligence

Loughborough, UK

Oct. 2021 – Oct. 2022

University of Sheffield

Bachelor of Engineering, Electronic Engineering with a Year in Industry. Class 2:1

Sheffield, UK

Sep. 2017 – Jun. 2021

EXPERIENCE

SpaceDART Avionics Engineer

Project SunrIde, University of Sheffield

July 2021 – Present

Sheffield, UK

- Developed and implemented the Ground Station Telemetry system with Grafana and InfluxDB.
- Developed data ingestion tools for the telemetry system using Python, REST API and WebSockets.
- Deployed the system to be used remotely by SunrIde team members over the internet using Docker and Nginx.
- Contributed to the embedded avionics systems software on SunrIde rockets using C++ via Git.

Electrical Design Engineering Intern

VolkerRail Ltd - Placement Year

June 2019 – June 2020

Doncaster, UK

- Designed and developed electrical design schematics and simulations in a team for use on the railway.
- Managed the entirety of a design job; understanding the scope, rectifying issues in electrical simulations, improving design workflow with efficient organisation of project files and effective communication with parties involved.

Electric Powertrain Systems Engineer

Sheffield Formula Racing (IMechE Formula Student)- University of Sheffield

May 2017 – June 2021

Sheffield, UK

- Designed and developed the foundation of an electric formula student car in a team as part of a new initiative.
- Conceptualised communication and data logging systems using microcontrollers and CAN.
- Improved technical knowledge of embedded systems software in tandem with electronic and mechanical designs.
- Developed communication and teamwork skills in the inter-disciplinary team of 60 members.

Web Development Intern

CBC EMEA

Aug. 2016

Lagos, Nigeria

- Expanded my knowledge on creating websites using HTML, CSS and JavaScript in an agile environment.

VOLUNTARY EXPERIENCE

Cybersecurity Society Technical Lead

Student's Union, Loughborough University

Feb. 2022 – Present

Loughborough, UK

- Delivered engaging presentations on cybersecurity topics and curated fun challenges for society members.
- Planned and organised society events in a team that encouraged member participation.

Photography Society Publicity Officer

Student's Union, University of Sheffield

May 2019 – June 2021

Sheffield, UK

- Improved member engagement through an effective use of social media platforms.
- Developed illustration and animation design skills for publicity material to promote society events.

PROJECTS

Simple Suspender Safari Extension | JavaScript, HTML/CSS

Mar. 2022 – Apr. 2022

- Solved the issue of high memory usage with many open Safari browser tabs by developing a web extension to suspend tabs manually or after a set period of time.

Smart Room | C/C++, Linux Containers (LXC)

Feb. 2022 – Mar. 2022

- Designed and developed Internet-of-Things (IoT) devices using microcontrollers, CAD software and 3D printing.
- Deployed an instance of Home Assistant using LXC to orchestrate and facilitate the use of the IoT devices with voice assistants.

AI Robot Car - Postgraduate Project | *Python, Jupyter Notebook, TensorFlow, ROS* Nov. 2021

- Developed software in a team of 5 for a robot car to follow a Human using an Intel RealSense RGB-D camera.
- Utilised Mobilenet V2, a pre-trained convolutional neural network model to detect people and avoid obstacles.
- Implemented human-like behaviours for the robot to perform based on pre-determined conditions.

Cryptocurrency Trading Bot | *Python, Node.js, SQLite, REST API, Git* May 2021 – Aug. 2021

- Developed a terminal application to speed up the process of trading cryptocurrency pairs using the REST APIs of two prominent cryptocurrency exchanges.
- Implemented a database for logging trades using SQLite.
- Managed and responded to issues on the GitHub issue tracker for the project which has 50+ stars.
- Re-architected the project from a simple python script to an object-oriented Node.js application, allowing for extensibility and separation of concerns.

Invisible Image Watermarking - Undergraduate Project | *Python, OpenCV, Next.js* Sep. 2020 – May 2021

- Developed an algorithm using Python, NumPy and OpenCV to embed a watermark in the frequency domain of image that is robust to the process of dithering in physical prints.
- Deployed a full-stack web application with Flask serving as a REST API, Next.js for the frontend and Redis as a task queue to allow for testing of the watermarking algorithm online.

HomeLab - Server and Networking | *Linux, KVM, Kubernetes, Docker, Nginx, VPN* Mar. 2020 – Present

- Built and setup homelab infrastructure for virtualisation, experimentation and deploying personal services online.
- Implemented VLANs and a Site-to-Site VPN using WireGuard to connect a Virtual Private Server (VPS) network to my home network.
- Deployed multiple web applications hosted locally using Nginx as a reverse proxy.
- Managed self-hosted applications using a virtualised 3-node Kubernetes cluster and Docker running in LXC's.
- Implemented PCIe GPU pass-through from a KVM Hypervisor Host to a Guest VM using IOMMU.

Video2Live - iOS App | *Swift, SwiftUI, Google Admob* Nov. 2019 – Sep. 2020

- Developed an iOS app to convert video files to Apple's Live Photo format using Swift, for use as a Live Wallpaper.
- Published app to the Apple AppStore gaining 38K+ downloads, an average 4-star review and double-digit revenue from in-app purchases and ads.

TECHNICAL SKILLS

Languages: Rust, Python, C/C++, Arduino, Swift, JavaScript, HTML/CSS, SQL

Frameworks: React, Node.js, Flask, Flutter

Developer Tools: Git, Docker, Kubernetes, Linux, AWS, Ansible, Terraform, VS Code, Xcode, VIM

Libraries: NumPy, pandas, Matplotlib, TensorFlow

Other: Photoshop, Blender