ABAYOMI OMOTOSHO-IKURU

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EDUCATION

Loughborough University Loughborough, UK
Master of Science, Artificial Intelligence *Oct. 2021 – Oct. 2022*

University of Sheffield Sheffield, UK
Bachelor of Engineering, Electronic Engineering with a Year in Industry. Class 2:1 *Sep. 2017 – Jun. 2021*

EXPERIENCE

SpaceDART Avionics Engineer July 2021 – Present
Project SunrIde, University of Sheffield *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 Engineer June 2019 – June 2020
VolkerRail Ltd - Placement Year *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 May 2017 – June 2021
Sheffield Formula Racing (IMechE Formula Student), University of Sheffield *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 Aug. 2016
CBC EMEA *Lagos, Nigeria*
- Expanded my knowledge on creating websites using HTML, CSS and JavaScript in an agile environment

VOLUNTARY EXPERIENCE

Cybersecurity Society Technical Lead Feb. 2022 – Present
Student's Union, Loughborough University *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 May 2019 – June 2021
Student's Union, University of Sheffield *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

AI Robot Arm - MSc. Project | *Python, Unity*   Apr. 2022 – Aug. 2022
  - Researching and developing an artificially intelligent 6 DoF robot arm based on Niryo One using reinforcement learning

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
  - Open sourced the extension on GitHub

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 LXCs
  - 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