

EDUCATION**Durham University***BSc (Hons) Computer Science***Durham, United Kingdom****09/2024 - 06/2027****Relevant Coursework:** (*in progress*) Programming (gold), Computer Systems, Computational thinking, Algorithms & Data Structures, Mathematics for Computer Science**Student Organizations:** DUcompsoc, Durhack**HarvardX***Certificate: CS50 (online)***06/2024 - 09/2024**

-Learned core algorithm and data structure principles like arrays and linked lists.

-Learned how to implement these principles in the real world by programming in C.

-Gained an overall understanding of recursion, algorithmic efficiency, debugging, version control using Git, along with knowledge of the functioning of computers at different levels of abstraction (Computational Thinking).

PROJECTS**Occurrence List DPLL Sat Solver***Academic Project | Python, Brython***2025**

-Developed a Davis–Putnam–Logemann–Loveland style sat-solver in python from scratch (no libraries).

-Conducted research and extensive benchmarking to implement the most time-efficient branching heuristic.

-Implemented clause modification through an occurrence list, resulting in ~50% efficiency gains vs. efficient iterative methods.

-Documented my findings on GitHub.

-Deployed the solver as an in-browser tool with Brython, running the python solver natively in the client-side JS.

SampleRecorder*Audio Programming | MacOS App | Swift, Core Audio Taps***2025**

-Made a lightweight Open-Source Mac OS app for music producers and creatives to be able to record system audio without having to re-route through an Aggregate Device manually.

-Used MacOS's new Core Audio Taps API to do so.

-Learned about the low-level Mac OS audio architecture to create a robust audio system, complete with system permission checking.

Graphic 3-Band EQ*Audio Programming | C++ | JUCE framework***2024-2025**

-Developed a graphic EQ deployed as AU, VST and VST3 for personal use using the JUCE framework.

-Made a graphic UI complete with a graph showing the live frequencies of the audio being played

EXPERIENCE**SURFLAND OUALIDIA SURFCAMP****Oualidia, Morocco****Community Manager & Surfing Instructor****06/2022 - 07/2022**

-Coached and taught children and teenagers aged 4 to 16 in a variety of waves and conditions.

-Held the responsibility of handling all communication between camp staff and younger campers.

-Describe what you accomplished in your position and give numbers indicating achievements.

-Managed camp wellbeing and implemented community engagement initiatives for 60 kids.

VOLUNTARY EXPERIENCE**AMIS DES ECOLE – IMPACT MOROCCO****Morocco****Project Manager, Member****10/2021 – 05/2022**

-Successfully raised and oversaw the management of \$33k for the construction of a new classroom and sanitization block at a girls only boarding school in rural Morocco; Dar Taliba.

-Facilitated communication between NGOs and coordinated a cultural experience in Morocco for over 50 international volunteers.

-Undertook various negotiations for accommodation, food, cultural integration activities, and construction arrangements, often acting as a translator between locals and the international volunteers.

SKILLS AND INTERESTS**Technical:** Proficient in C, Python, Swift, SwiftUI, NumPy, Matplotlib, Rest API, HTML, CSS, Bootstrap, JS, Node.js, express, jest and GIT – Googling – Audio Programming - Microsoft Office Suite, Logic Pro X, Final Cut Pro X, Reaper**Languages:** French (First language), English (C1), Arabic (B2), Spanish (B1)**Interests:** Surfing, Music (guitar & voice), Cycling, Swimming, books, cinema