

## EDUCATION

### University of Manchester

Computer Science, B.Sc. (Hons.) | 1st Class with Honours

Manchester, UK  
*Oct. 2020 – July 2023*

- Modules included: System Architecture, Advanced Distributed Systems, Advanced Computer Graphics, and Microcontrollers

## EXPERIENCE

### ARM Ltd.

Graduate Engineer | C++, DynamoRIO, SystemVerilog

Cambridge, UK  
*Sept. 2023 – Current*

- Implemented cache performance modeling and analysis using DynamoRIO and C++
- Presented cache performance modeling results at internal company conference
- Designed, implemented, verified, and synthesized functional hardware prototypes using SystemVerilog

### ARM Ltd.

Part-Time Undergraduate | C++, Make, Batch, CMake, LLVM, Zephyr

Cambridge, UK  
*July 2021 – Mar. 2023*

- Part of the PTUG Social Committee, organising in-person, online, and hybrid events for other PTUGs
- Ported the Zephyr build system to support the LLVM and Armclang toolchains
- Ported existing Make and Batch build scripts to use CMake
- Participated in daily standups, bi-weekly sprint reviews, and code review

### Pretius sp. z o.o.

Work Experience | C#

Warsaw, Poland  
*Aug. 2019 – Aug. 2019*

- Migrated a web app between platforms and wrote technical documentation
- Learnt Agile methodology, experiencing Kanban-style organisation and bi-weekly sprint reviews
- Learnt Jira for task management, task-estimation, and to decompose large tasks into smaller chunks

## PROJECTS

A Generic Framework for Distributed Computing | C, Compilers, Networking, Make

*Sept. 2022 – July 2023*

- Designed a compute kernel language using a subset of C11 and influenced by OpenCL
- Implemented a bytecode compiler and interpreter for the aforementioned compute kernel language
- Implemented a custom network protocol, and various distributed algorithms (e.g. hash-table, memory, synchronisation)
- Implemented a mandelbrot set compute kernel as an example of the platform

RoboSoc Orchestra Team | C, C++, Embedded, ARM

*Sept. 2022 – July 2023*

- Served on the Conductor team, architecting and implementing the control system for the orchestra
- Planned the protocol and interfaces for communicating between the conductor and different musicians
- Implemented a MIDI parser, the conductor user interface, and the conductor backend

Hyperloop Manchester | C, C++, Embedded, ARM

*Nov. 2020 – Jan. 2022*

- Served as the Software Team Head, architecting the software aspect of the pod
- Researched and implemented standards and algorithms for driving a Hyperloop pod safely
- Implemented beginnings of RTOS, including startup code for Teensy 4.1 and beginnings of USB driver
- Organised work using Jira and Kanban, used Git as source control, and had weekly standups to track progress

UniCS GameDev | C#, Unity, Typescript, Next.js

*Nov. 2020 – Nov. 2021*

- Served as Co-Head of the UniCS GameDev society, leading the development team
- Collaborated with team members in an Agile environment with weekly standups
- Planned tasks and estimating their requirements (time-wise and content-wise)
- Planned, researching, writing, and delivering tutorials on C# and Unity
- Designed and implemented the UniCS GameDev website in next.js using Typescript

## SKILLS

**Soft Skills:** Communication, Teamwork, Leadership, Project planning, Organisation, Time management

**Languages:** SystemVerilog, C, C++, C#, CMake, Make, Bash, Python, Java

**Frameworks:** Verdi, DynamoRIO, ASP.Net, Unity, PlatformIO

**Developer Tools:** Git, Jira, Visual Studio, VSCode

## INTERESTS

Outside of computer science and software engineering, I enjoy going to the gym, bouldering, swimming, and am a 2nd Dan black belt in DART Karate (where I am an instructor to younger students). I have quite a few ongoing personal projects, including a 3D open-world sandbox game built from scratch, as well as creating my own web server and linux distribution for my raspberry pi. I also take part in Micromouse competitions, building and programming robots in FORTH to complete various courses (including line following, wall following, and maze solving).