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--Work Experience ---

Mastercard: Data Science Operations Engineer   **March 2022 – Present**
• Provided real time app support to maintain downtime/service degradation within the requirement of our SLA (on call)
• Aided the Financial Crimes team with DevOps Related tasks including but not limited to deployments of microservices to Prod/CR
• Part of the first team in Mastercard Global to deploy a product to production on Kubernetes
• Development of Go and Python Microservices, including but not limited to Testing (Unit, integration and Pact), bug fixes and general code quality improvements

First Derivative Technologies: Data Scientist on Capital Markets Graduate Programme   **October 2021 – March 2022**
• Lone Data Engineer Deployed to a Formula 1 Race team tasked with the creation of Race Ops Dashboards (frontend and backend)
• Delivered a Proof of Concept, as a team of 3, to a Race Series that resulted in sale of both product and promise of future work
• Founded a deep understanding of the vector oriented programming language Q and corresponding KBD+ Database

Imperial College London: LLVM Undergraduate Research Opportunity   **August 2020 – October 2020**
• Implementing resource sharing between different statically and dynamically scheduled components by using LLVM to manipulate source IR to comply with HLS and "Dynmatic" scheduling tools
• Developed a deeper understanding of Intermediate Representation and the respective optimisations

--- Relevant Projects---

Deep Learning Research Paper, Python (Graded > 70%)   **March 2021**
• Implemented and analysed the following: Common CNN architectures, RNNs, Autoencoders, VAE-GANS and RL networks

Neural Network Library, Python (Graded 100%)   **December 2020**
• Developed a library from scratch (excluding NumPy) for implementation and training of dense neural networks

Image Classification using a Convolutional Neural Network, Python   **November 2020**
• Image Classification on MNSIST Fashion using PyTorch, test set accuracy 95.95% (better than 5th place on Kaggle)

Monte Carlo Simulation of CPU Cores' Interaction with Ticket Spinlocks   **November 2020**
• Monte Carlo Simulation (personal project) and Mathematical Analysis (graded 60%) investigating the effect of varying the number of CPU Cores' on both; time taken to execute a given number of jobs and average number of cores in use

MIPS Simulator, C++ (Graded 77%)   **November 2018**
• Emulation of a CPU's memory and register file when given MIPS-1 big-endian binaries
• Wrote a Test Bench with over 200 tests of Mips assembly

C98 to Mips Compiler, C++ (Graded 66%)   **June – July 2019**
• In a group of 2, we developed a lexer, parser and code generator to compile C98 into Mips Assembly
• Using the same skeleton, we constructed a C98 to python translator
• Created a bash script to compare the output of executables produced from compiling C98 files using both GCC and our Compiler

Proof of Concept MySQL Database host on GCP   **November 2020**
• As part of a 24-hour hackathon I host a selection of small relations on Google Cloud Platform to display our chosen architecture

FPGA Real Time Image Processing end of first year project (C and python) (graded 72%)   **March 2018 – June 2018**
• Developed a deep understanding of optimisations specific to FPGAs and general computer architecture, such as arbitrary precision types, unrolling loops and pipelining
• Matured time and resource management skills including the creation and application of Gantt and Activity Network diagrams
• Took the lead role writing an 8000-word technical report

--Education--

Imperial College London; Electronics and Information Engineering 2:1   **October 2017- June 2021**
Relevant modules: Machine Learning; Artificial Intelligence; Mathematics for Signals and Systems; Deep Learning; Simulation and Modelling; Object Oriented Programming; High-Level (functional) Programming; Computer Vision; Software Engineering; Data Structures and Algorithms; Algorithms and Complexity; Databases; Computer Networks and Distributed Systems; Language Processors; Mathematics 1 and 2 and Computer Architecture 1 and 2.

--Skills and Interests--

Advanced mathematics receiving 100% on multiple A-Level Maths and Further Maths Modules, Linear Algebra. Python (including but not limited to pytorch, keras, tensorflow), Go, SQL, C++, F#, MATLAB, KBD+/Q and prolog. Docker and Kubernetes. Experience with all 3 major operating systems and developer tools such as Visual Studio and Git (https://github.com/ollieellis).

Outised the classroom I take pleasure in a variety of team sports and games and enjoy competing to a high level. I do not shy from responsibility and have captained/founded football teams, took the treasury role for my university base ball team and more recently loved being the sole dashboard developer in a formula 1 team. I'm a highly competitive person and love solving problems, subsequently I was a frequent winner in my high school engineering society.