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Samuel J Coope

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EDUCATION

Imperial College London - Computing MEng 2013 — Present

- Created a back end service which authenticates users based on the way they type as part of a team web app project. Used PostgreSQL for managing the databases which stored users keystroke information.
- Worked in a team to create a compiler using ANTLR and java for a simple imperative language. Created an extension which used graph colouring to allocate registers.
- Completed PINTOS - a series of coursework aimed at improving the understanding of operating systems. This included creating a load based process scheduler, implementing virtual memory, and lazily loaded executable programs.
- Lead a team project to research neural networks, specialising in the backpropagation algorithm, and created a java web-app which trains a layered neural network to approximate a given mathematical function. Awarded best in category.
- Created an assembler and emulator for ARM architecture in a group project, then used the assembler to compile ARM assembly code into object code which activates lights on a raspberry pi when run.
- Completed weekly programming projects in Haskell, Java and C, which included creating abstract data types to a Java container standard, a renderer for creating L-systems and the backend for calculating cells in an excel-like program.
- *Courses of note:*
  Software Engineering and Design - The course involved using test driven development to create robust code, focusing on current design patterns such as strategy, visitor and model-controller-view.

  *Algorithms - U*nderstanding the time and memory complexity of the most used algorithms in Computer Science such as sorting, string matching, and graph analysis.
- Awarded a Computing Entrance Scholarship for outstanding A-level grades.
- Achieved a 1st (75%) for the second year of study including 91% in lab coursework and 92% in Compilers.

Bromsgrove School 2003 — 2013

- Achieved A level results of Further Maths A2 (A*), Additional Further Maths AS(A), Physics A2(A), Chemistry A2(A).
- Appointed Head of Cadet regiment of school, requiring me to teach team leadership and problem solving skills to younger members.

OTHER EXPERIENCE

Bloomberg LP. July — September 2015

- Worked in Core Monitors, a team creating realtime customisable spreadsheets for viewing market data. Developed in a proprietary Node.js like technology with Angular like front-end.
- Created the foundation for the mobile version of the new monitors app, moving a large client side application to a backend service, refactoring the codebase to allow for a UI-less version of the app to run on a server.
- Nominated for the Business Value Award, given to the intern which provided the most impact in their time at the company.
- Worked in a team following agile principles, and took part in formal code reviews for pull requests.
- Used git to a high level, using features such as rebasing and merging branches into the main codebase.

Delcam Plc. July — September 2014

- Worked in ArtCAM, a small team developing artistic CADCAM software. Developed backend in c++ and used Javascript for user interface.
- Created a tool which takes incremental slices of a 3D model, outputting the slices as models in the program, PNG files or SVG graphics. This required use and understanding of OLE Automation to call c++ methods through a javascript/html GUI.
- Verified the feasibility of smoothing a 3D model by using a fast Fourier transform algorithm with AMP.
- Wrote an API which, given a list of vector objects(beziers/shapes/straight lines), created a to-scale SVG file. This was then used for exporting vector graphics as part of a client's request.

Additional

- Created a Google Chrome extension at HackKings '14, 'Baker's Revenge', which visualises cookies in your browser and allows you to delete them in a gamified fashion.
- Used Leap Motion and Tobii Rex at ICHack '14 to create a unity game concept which used hand tracking on the Leap Motion and eye tracking of the Tobii Rex to navigate the user around a 3D space.