William Fisher

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SUMMARY

C, *Haskell*, *Javascript*, *Go*.

Worked in web development, studying type theory. Experience with Linux, web servers, and databases. Interested in {functional,distributed,systems} programming, mathematics, and cooperatives. Open source enthusiast.

EDUCATION

MSc. Computing Science, Imperial College (provisional Distinction) **2015 – Present**

- Thesis in the area of programming language theory. Proposing an extension to Haskell based on a λ-calculus with exceptions. Using skills in proofs, programming language theory, and Haskell.
- Group project in the area of distributed systems. Designing caching algorithms in content-based networks using Icarus, Python, and producing visualizations in Javascript with D3.

Modules: Networks and Distributed Systems, Concurrency, Algorithms, Robotics, Computer Architecture, C++ Programming, and Operating Systems.

BA Music, University of Leeds (First Class) **2011 – 2014**

Modules: Composition (**indeterminate**, **algorithmic**, **cellular-automata**), Aesthetics & Criticism (phenomenological, post-structuralist, feminist), Music Technology (*Supercollider*, *MaxMSP*). Dissertation on aesthetics of sexualization in popular music.

Fortismere Secondary School **2006 – 2010**

A Levels: Philosophy *A*, Mathematics *B*, Music *C*; **GCSEs**: 2 *A**, 5 *A*, 3 *B*

EMPLOYMENT

Software Developer and Teacher, Founders & Coders **2014 – 2015**

Founding member of an award-winning web development cooperative. Responsibilities included planning project architecture and implementation details, and teaching groups of 16 students how to write web-based applications.

PROJECTS

Camden Maps, Camden Council – *http://maps.camden.gov.uk* **2014**

Lead Developer. A service for finding local amenities and live information about street works. Updated an undocumented, legacy API from SOAP to RESTful using *Node.js* and *Angular*.

Named Exceptions in Haskell, Imperial College **2016**

Translated the λ^{try}-calculus to the $\lambda\mu$-calculus and then to Haskell-like calculus. Proved **soundness** and **completeness** of translations. Presented proof-of-concept implementation in *Haskell*.

Self-Driving Robot, Imperial College – *https://github.com/filwisher/py-robot* **2016**

Implemented a program for allowing a robot with a single ultrasonic sensor to navigate between waypoints in a simple maze using Beysian inference, *Python*, and a Raspberry Pi.

Caching Algorithms, Imperial College – *https://github.com/filwisher/distributed-project* **2016**

Project lead. Design and simulate new caching algorithms for content-addressed networks. Extended a *Python* network simulator to test different approaches. Implemented a web-based tool to visualize algorithms in *Javascript*.

PRIZES

Young Cooperator's Prize, AltGen: Awarded to Founders & Coders for our innovation and commitment to cooperative values.

Lord Snowdon Prize, University of Leeds: Awarded for notable achievement in Music, for graduating with the highest grade in the year.

MISCELLANEOUS

Skills: Web development, SQL and NoSQL databases, browser and web server environments, Unix, debugging, Git version control, Travis CI, teaching, algorithms, concurrency, and networks.

Languages: *Javascript* and *Node.js* (fluent); *Go*, *C*, *Python*, (familiar); *Supercollider* and *Puredata* (audio programming); *C++*, *Prolog*, (some experience); *Haskell* (currently pursuing). Very interested in learning new languages.