Dr Frank Burton

Curriculum Vitae

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Motivation

So far, I've worked on high-performance data processing 40 Gbit/s of network traffic for Solarflare. I have worked on building a bookmaker for Mustard Systems. Most recently, I've been working on building email security products for Tessian. I'm now looking for new interesting work in other areas.

Employment History

Nov 2021- Present
Senior Software Engineer, *Tessian*, Tessian is an email security company that protects emails, both inbound and outbound. I worked on the inbound email security product. Main technologies: AWS, Docker, Kafka, Microservices, Python, PostgreSQL, Scrum, Terraform and Unit Testing.

Aug 2021- Oct 2019
Founder, *lolsolved.gg*, I've commercialised my Doctor of Engineering thesis work by applying it to a popular video game (League of Legends). This involves the application of machine learning techniques to the games' item and rune systems to automatically determine the most optimal builds for the players to use. The main engine is written in Kotlin and the website uses Python, PostgresSQL and Javascript.

Sep 2019- Aug 2017
Software Developer, *Mustard Systems*, Mustard Systems specialises in trading gambling positions as if they were financial positions on the stock market. I worked on the development of their in-house bookmaking software for making their trading positions open to the general public and provided technical support for the traders on rota.

Using the skills developed at Solarflare, I purposed a new architecture for their bookmakers public interfaces, which was adopted and increased the number of live active users that the software could support from 50 to 30,000.

Main technologies: Python, PostgreSQL, Scrum and Unit Testing.

May 2017- Mar 2015
Software Engineer, *Solarflare Communications*, I worked in the high performance (40 GBit/s) network traffic capture team, writing high performance C code for capturing network traffic to disk and performing analysis on the captured network traffic and used Python for writing REST interfaces for use by the front-end UI team and for the surrounding testing infrastructure.

I was the team liason to both the FPGA software team and the front-end UI team, which worked at geographically distinct sites.

Main technologies: C, Python, PostgreSQL, Unit Testing, Mercurial, FUSE, Docker, Flask, Scrum, SQLAlchemy and Unit Testing

Education

2009–2014   **Doctor of Engineering in Large Scale Complex IT Systems**, *The University of York*, The Doctor of Engineering programme encompasses a traditional Computer Science PhD along with a one-year taught master course on Large Scale Complex IT Systems. The research project is furthermore set by an industrial sponsor (MooD International) and focuses on solving a real world problem from industry

2006-2009   **Bachelor of Engineering in Computer Science**, *The University of York*, **First Class with Honours**

2004–2006   **A Levels at Stoke on Trent Sixth Form College**

Mathematics	A	Computing	A
Further Mathematics	B	Physics	A

1999–2004   **GCSEs at Clayton High School**, *5A's, 3B's & 2.5C's*

Doctor of Engineering Thesis

Title   *Trade-offs in System of Systems Acquisition*

Supervisors   Richard Paige, Simon Poulding, Dick Whittington & Simon Smith

Description   Large organisations tend to have multiple organisational goals. To satisfy these goals, organisations acquire different resources such as new systems, training programmes, infrastructure and processes. These different resources combined together to meet the same organisational goals can be considered as a *System of Systems*. The thesis focuses on providing a novel technique with prototype tool support to explore the different possible resource combinations in satisfying organisational goals to perform more efficient acquisitions.

Programming Projects

I've worked on numerous programming projects including a Gameboy Emulator and a simple version of Minecraft in Rust using actix-web and tokio. These can be found here: `https://www.frankroystonburton.co.uk/#projects`

Interests

I'm a fan of modern RTS games such as Planetary Annihilation and Starcraft 2 and occasionally attend Live Action Role-play events and Anime conventions.

References

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