

Samuel Russell

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Personal Statement I love to learn and to challenge myself. New experiences and chances to solve problems excite me. I am a keen sportsman and musician and I am academically driven yet thrive in practical situations, individually or with a team.

Education **First Class Master's Degree** in Computer Science from University of Bristol (2014-2018)

I focused on cryptographic theory and the practical **security** of devices and systems, with my dissertation defining a new cryptographic primitive - *Distribution Transforming Encryption* - enabling the hiding of TOR traffic on the internet.

Also covered: - Operating Systems; Networks; High-Performance computing; Computer Vision; super-scalar, speculative Computer Architecture; Cloud Computing; and Machine learning including Deep Learning.

A level: Caerleon Comprehensive Sixth-form (2012 – 2014)

A* in Maths, A* in Further Maths, A in Physics, A in Chemistry and completed the A-level Welsh Baccalaureate.

Employment

**Summer 2017
Software
Development
Intern
Oracle, Bristol** I spent the summer working in a software development team at Oracle. I worked on several front-end products and built a new lightweight testing framework that saved the team a lot of development time. I also engaged with other teams within the office to try and make the most out of my time, for example, I learned about optimisations you can make to the JVM to improve performance on new paradigms like FAAS.

**2016-2018
Teaching Asst.
Bristol University
CompSci Dept.** I was asked by several lecturers in the university department to help run their units during the term. My role as a teaching assistant involved running computer lab and drop-in sessions, helping students to understand the ideas presented in lectures. I had to react and learn on the job since course's content had evolved since I had taken them. The units included Language Engineering, Computer Architecture and Data Structures and Algorithms.

**Summer 2016
Technologist Asst.
Bristol University
CompSci Dept.** As a top-rated student, I was invited by the head of the department to design and build a giant, wall mounted and fully transparent computer processor to be used as a teaching aid. This was called the BigHexMachine and attracted local press attention. I developed my skills in electronics as well as building a web interface on a raspberry pi. I found it very rewarding, using something that I had built, to explain the inner workings of computers to people of all ages, through several outreach workshops which I lead.

**Summer 2015
Camp Counsellor
YMCA, USA** As a first-year student, I was excited to take the opportunity to develop my interpersonal skills at YMCA Camp Pendalouan in the USA. This gave me invaluable experience in working with people; from customer service interactions with parents; leading and teaching groups of children; working with the other staff and taking responsibilities seriously. Furthermore, thinking on your feet to solve problems was paramount, for instance trying to restore power when our energy supply was cut off in a storm. Running the sailing department, I was responsible for planning sessions and organising equipment and was complimented on my creativity and leadership.

- Programming Skills**
- Imperative programming in C
 - Object oriented programming in Java
 - Functional Programming in Haskell and Scala
 - Programming for the Web in JavaScript
 - Python Programming; such as Machine Learning using TensorFlow
 - Some experience in Prolog's relational programming paradigm

Interests I have a love for sports, playing club tennis, squash and badminton. During my time at Bristol, I took charge of social tennis for the university, with my main role of organising tournaments and weekly sessions, liaising with the coaching and facility staff. I am grade 8 on the violin and have been dedicated to my county youth and university orchestras, performing at the Albert Hall and on European tours. I have been involved in Scouting for a long time since I enjoy hiking and other outdoor activities. I have now progressed to be a leader at my local unit, working with others to run weekly evening sessions and large annual events such as firework displays.

References Available upon request