PERSONAL STATEMENT

I am a PhD student at the University of Birmingham with an interest in applying mathematical techniques to cyber security problems. I have a passion for problem solving and technology and wish to work within an industry that helps protect people in an increasingly interconnected world. As someone with Asperger’s syndrome, I have worked hard over many years to improve my confidence, communication and team-working skills, helping me to engage effectively with my peers.

EDUCATION

PhD in Computer Science
University of Birmingham, Edgbaston
Sept. 2016 - present


MSc in Cyber Security
Distinction
University of Birmingham

- Topics studied include: Cryptography, intelligent data analysis, privacy and cybercrime, computer-aided verification, hardware and embedded systems security, networks, network security
- MSc Project title: “Using PRISM for Analysis of Game Theoretical Techniques for Security Problems”

MSci in Mathematics
1st class degree with Honours
University of Birmingham
Sept. 2011 - Jun. 2015

- Topics studied include: Linear algebra, real and complex variable theory, linear programming, group theory, Galois theory, graph theory, combinatorics, communication theory, linear analysis, computability, logic, computational methods, introductory statistics
- MSci Project title: “Compact Riemann Surfaces and their Holomorphic Maps”

Concord College, Shropshire, 2008-2011
5 A-levels, including triple mathematics (A*A*A), history (A) and physics (A)

EXPERIENCE

University of Birmingham School of Computer Science
Teaching Assistant
Edgbaston, Birmingham
September 2016 - present

- I assist with the teaching of computer science modules, specifically intelligent data analysis and introductory databases.
- For intelligent data analysis, I helped produce a comprehensive set of lecture notes and exercises to further the student’s understanding of what they are being taught.
- In introductory databases, a popular course where it is common to have around 200 students enrolled on it, I have been responsible for marking any submitted work to tight deadlines. I have also conducted short ‘student-vivas’ where I meet students individually and assess their code.

Defence Science Technology Laboratories (DSTL)
Summer Placement Student
June 2015 - September 2015
As part of the Cyber and Information Systems Division, I worked in a team of three people on a research project and presented my findings to senior staff to be used in their future work. I needed to effectively collaborate with the team and other staff and contribute to any discussions regarding the task.

I was able to deliver a report on time, understand a challenging area of mathematics and communicate it effectively and lead a presentation with someone from the team to a group of other summer students and full-time staff.

I applied my knowledge of python programming to write a script in order to test a hypothesis relating to the task. I gathered my results from the experiment in an excel spreadsheet and derived a conclusion from them.

I went to the Bsides Manchester conference and listened to talks related to the project. I also attended an internal training course that introduces the fundamentals of data networks and communication, receiving a certificate at the end that demonstrates my willingness to learn new things.

**University of Birmingham Guild of Students**  
*Technical Assistant*  
*Edgbaston, Birmingham*

- I setted up lighting and PA for shows and events in collaboration with student societies and other bodies within the Guild. I needed to maintain and check equipment, demonstrate teamwork and finish tasks to constantly changing and demanding deadlines. This all had to be done within strict guidelines, reporting anything that is a health and safety hazard.
- This role has greatly improved my time management and ability to prioritise, gaining hands-on technical experience in inspecting, repairing and making equipment.

**TECHNICAL SKILLS**

<table>
<thead>
<tr>
<th>Computer Languages</th>
<th>Python, C/C++</th>
</tr>
</thead>
<tbody>
<tr>
<td>Markup Languages</td>
<td>Latex, HTML/CSS</td>
</tr>
<tr>
<td>Operating Systems</td>
<td>Windows, Linux</td>
</tr>
<tr>
<td>Version Control</td>
<td>Git</td>
</tr>
<tr>
<td>Other</td>
<td>PRISM symbolic model checker</td>
</tr>
</tbody>
</table>

**ACHIEVEMENTS**

**June 2015** - One of 232 students to successfully achieve the University of Birmingham Personal Skills Award (activity pathway). Taken in addition to my main programme of study.

**December 2013 - March 2015** - Leader for the PASS (Peer Assisted Study Sessions) scheme for Mathematics, assisting first year undergraduates in their studies.

**July 2012** - Awarded the Alison Powell Memorial Prize for obtaining top marks in the 'Discrete Mathematics and Statistics' exam in my first year.

**June 2012** - Completed the Summer Skills Programme set by the Careers and Employability centre at the University of Birmingham. Participated in activities overseen by visiting employers and university staff to develop skills and understand the nature and priorities of business.

**HOBBIES AND INTERESTS**

In my spare time I like to read, write short essays with a focus on humanities, play video and board games and travel.