NICHOLAS SALE

Computational Foundry, Bay Campus, Swansea University, Wales. SA1 8EN

nicholas.j.sale@gmail.com

EDUCATION

Swansea University *October 2019 - Present*
PhD Computational Foundry

University of Oxford *October 2015 - September 2019*
MMathCompSci Mathematics and Computer Science First Class

RESEARCH EXPERIENCE

Applied Research Summer Placement *July 2018 - September 2018*
UK Civil Service *Civil service references available on request*

· 11-week placement researching how machine learning and other data science techniques could be applied to aid my team with data annotation.
· Presented my work and an introduction to topological data analysis in a seminar for the data science community within the government department. Also contributed to the initial literature review for a project in collaboration with the Alan Turing Institute.

Applied Research Summer Placement *July 2017 - September 2017*
UK Civil Service

· 11-week placement researching the feasibility of using data science techniques to identify certain types of network devices based on limited information about their traffic.
· Presented my work at the kick-off meeting for a workshop on analysing network traffic and as a seminar for the data science community in the government department.

Summer School Individual Research Project *July 2016 - September 2016*
UK Civil Service

· Undertook a short project investigating the use of sheaves and sheaf cohomology in data science, following Michael Robinson's 'Tutorial on Sheaves in Data Analytics', and writing a short Haskell script to perform calculations.
· See `https://github.com/NickSale` for code.

Work Experience
BAE Systems, Great Baddow *July 2013*
Microsoft Research, Cambridge *February 2014*

· Spent two weeks at BAE Systems and a week at Microsoft Research learning about industrial research.

TECHNICAL SKILLS

Programming Languages Experienced: Python, Java, C$^\sharp$ Familiar: C++, Scala, PHP, Haskell
Software & Tools LaTeX, scikit-learn, pandas, Spark (parallel cluster computing)

Developed my technical skills and knowledge during an intensive 10-week summer school in 2016 which covered advanced topics in computer security, including some relevant applications of data science.

Worked on a 6-month engineering project as part of a team for the *Engineering Education Scheme* in 2014, working with Selex ES to design and build an autonomous vehicle. I took lead on researching, designing, and implementing the sensing, geometry representation and path-planning aspects of the project.

AWARDS AND SCHOLARSHIPS

Swansea University Research Excellence Scholarship *October 2019 - October 2022*

· Three years funding for a PhD, with additional funds for travel and training.

New College Undergraduate Scholarship *October 2016 - September 2019*

· Awarded for examination performance.

CyberFirst Bursary Scheme *October 2015 - September 2019*

· A government and industry-backed initiative aiming to improve the UK's cybersecurity capability by supporting selected undergraduate students.

GResearch Computer Science Project Prize *2017*

· Awarded for innovation in producing an automatic music composition program for a group project.

Arkwright Scholarship *September 2013 - September 2015*

· A prestigious engineering scholarship awarded after examination and interview.

NON-ACADEMIC POSITIONS

New College Boat Club Committee *New College, Oxford*
President 2018/19, Secretary 2017/18, Lower Boats Captain 2016/17,
Women's 3ʳᵈ Boat Coach 2018/19

Bar Sports Captaincies *New College, Oxford*
Darts Captain 2017/18, Pool Captain 2016/17

Oxford University Roleplaying Society Committee *October 2016 - October 2018*
Netrep (IT Secretary)