

Nicholas Sale

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Citizenship: British

Address: Computational Foundry, Bay Campus

Swansea University, Wales. SA1 8EN

Research interests Topological Data Analysis, Applications of Persistent Homology, Applied Topology, Phase Transitions, Statistical Physics

Education

Swansea University Swansea, UK
PhD in Mathematics Oct 2019 – Present
Supervisors: Prof. Jeff Giansiracusa, Prof. Biagio Lucini
Current Title: Applications of Topological Data Analysis to Statistical Physics
Expected Completion: Autumn 2022

University of Oxford Oxford, UK
MMathCompsci Mathematics & Computer Science Oct 2015 – Jul 2019
First Class

Honors and scholarships

Swansea University Research Excellence Scholarship	2019-2022
Undergraduate Scholarship (New College, Oxford)	2016-2019
CyberFirst Bursary (UK Civil Service)	2015-2019
Arkwright Engineering Scholarship (Arkwright Foundation)	2013-2015

Research experience

Applied Research Summer Placement
UK Civil Service Jul 2018 – Sep 2018
An 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.

Applied Research Summer Placement
UK Civil Service Jul 2017 – Sep 2017
An 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.

Teaching experience

Teaching assistant, Department of Mathematics (Swansea University)

MA-308: Machine Learning	Lent Term 2021
MA-131: Geometry, Logic, and Communication	Michaelmas Term 2020

	MA-262: Numerical Methods	Lent Term 2020
	MA-121 Methods of Algebra and Calculus	Michaelmas Term 2019
Talks	Persistent Homology for Phase Transitions	Nov 2020
	Meeting of the UK Centre for TDA, November 27, 2020	
Technical skills	Programming	
	Python (numpy, sci-kit learn, pandas), Java, C [#] , Javascript	
Non-academic positions	New College Boat Club Committee	New College, Oxford
	President	2018-2019
	Secretary	2017-2018
	Lower Boats Captain	2016-2017
	Women's 3 rd Boat Coach	2018-2019
	Bar Sports Captaincies	New College, Oxford
	Darts Captain	2017-2018
	Pool Captain	2016-2017
	Oxford University Roleplaying Game Society	Oxford
	Netrep (IT Secretary)	2016-2018