Oliver Singh

Personal Information

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Experience

May. 2022 to Present	**Evariste Technologies** *Data Scientist* Evariste is a small drug discovery company which uses simulations, modelling, and machine learning to search virtual libraries of billions of drug-like molecules for candidates for drug development. My roles include working as a developer (using Python and SQL) and data scientist to develop and implement models, and also involves some data engineering to deploy these models.
Jan. 2021 to Mar. 2021	**Max-Planck-Institut für Mathematik** *Visiting Researcher* Visiting the mathematics research institute in Bonn, Germany, to carry out collaborative research in low-dimensional topology.
Jun. 2020 to Dec. 2020	**Cabinet Office - COBR, COVID-19 Taskforce** *Grade 7 - Senior Analyst, Data Scientist* Surge hire during the COVID-19 crisis. Initially working for CCS and COBR, I directly contributed to briefings for the prime minister, ministers, and senior officials on the status of the pandemic. From August I worked within the Covid-19 taskforce, and worked on and managed data science projects (primarily in Python). Throughout, I helped to run an intra-government COVID-19 dashboard, and designed and wrote a Python API used by analysts for the day to day running of the dashboard.

Education

Oct. 2017 to Jun. 2022	**University of Durham** *PhD in Mathematics* Research in Low dimensional topology, under the supervision of Dr. Andrew Lobb and Dr. Mark Powell. Funded by an EPSRC grant.
Oct. 2013 to Jun. 2017	**University of Cambridge, Mathematical Tripos** *BA with MMath, First Class + Distinction* Distinction in part III and first class in part II.
Sept. 2011 to Jul. 2013	**St. Aidan's & St. John Fisher Associated Sixth Form** A-Levels in Mathematics **A***, Further Mathematics **A*** and Physics **A***. AS-Level Chemistry, **A**. STEP: Paper I **S**, Paper II **S**, Paper III **1**.

Papers

Nov. 2021	*Pseudo-isotopies and diffeomorphisms of 4-manifolds*, Preprint, arXiv:2111.15658.
May 2019	*Distances Between Surfaces in 4-Manifolds*, Journal of Topology, 13. 1034-1057.

Academic Talks

I have given talks on my research in person at the University of Geneva, the University of Sydney, the University of Cambridge, Durham University, and the Max Plank Institute for Mathematics. I have also given virtual talks for a number of geometry and topology seminars.

Skills

Experienced programming in Python, familiar with pandas, numpy, scikit-learn, some experience with pytorch, dask, and sqlachemy. Also experienced using git, SQL, and Linux; I have set up and managed a large PostgreSQL database and a cloud based Linux server as part of my current role. I am currently learning to use docker as we transition to AWS.