

A DPhil student in statistics and machine learning, with interests in data subsampling, network analysis, causal inference and Bayesian nonparametrics.

Education

- Oct 2017 – Present – **DPhil Statistical Science (EPSRC and MRC Centre for Doctoral Training)**, *University of Oxford*.
Thesis – “Bayesian Methods for Statistical Network Analysis and Data Subsampling”, supervised by Professor François Caron and Professor Judith Rousseau.
- Oct 2015 – **MSc Statistics**, *Imperial College London*, Distinction.
Sep 2016 Thesis – “Robust Estimation and Approximate Bayesian Methods in Causal Inference Problems”, supervised by Professor Emma McCoy and Professor Daniel Graham. Awarded a score of 90%.
Ranked 1st and awarded the Winton Capital Prize for Best Student.
- Oct 2012 – **BA Mathematical Tripos**, *University of Cambridge*, First.
Jun 2015

Experience

Internships

- Sep 2020 – **PhD Intern**, *Facebook*, London.
Nov 2020 Intern within the Core Data Science team. Created data pipelines and performed statistical analysis for problems in Community Integrity.
- Jan 2017 – **Quantitative Intern**, *Stratagem Technologies*, London.
May 2017 Quantitative Research Intern. Developed and extended a Bayesian updating model for the outcomes of football matches using in-play data.
- Oct 2016 – **Quantitative Intern**, *GMO*, London.
Dec 2016 Quantitative intern within the Global Equity Team. Created a data validation tool for large-scale fundamental accounting data for approximately 30,000 companies globally.
- Jul 2015 – **Summer Intern**, *Metaswitch Networks*, Enfield.
Sep 2015 Intern with the Perimeta Architecture Team. Designed and implemented code in Python for the automated orchestration of the Perimeta software upgrade process.

Teaching

- Oct 2019 – **Class Tutor**, *Department of Statistics, University of Oxford*.
Dec 2019 Foundations of Statistical Inference (3rd year course)
July 2019 **Tutor**, *Department of Statistics, University of Oxford*.
Mock probability tutorials for a summer school aimed at encouraging applications from students from disadvantaged backgrounds.
- Oct 2018 – **Teaching Assistant**, *Department of Statistics, University of Oxford*.
Mar 2021
 - Foundations of Statistical Inference (3rd year course) - 2018/19
 - Advanced Simulation Methods (4th year/MSc course) - 2020/21

Publications and Preprints

- 2022 **Fast Bayesian Coresets via Subsampling and Quasi-Newton Refinement**, *preprint*, arXiv:2203.09675.
C. Naik, J. Rousseau, T. Campbell.
- 2022 **Bayesian Nonparametrics for Sparse Dynamic Networks**, *preprint*, arXiv:1607.01624.
C. Naik, F. Caron, J. Rousseau, Y.W. Teh, K. Palla.
- 2022 **Impact of geographic diversity on citation of collaborative research**, *preprint*, arXiv:2204.11713.
C. Naik, C.R. Sugimoto, V. Larivière, C. Leng, W. Guo.
- 2021 **Sparse networks with core-periphery structure**, *Electronic Journal of Statistics*, 15(1), 1814–1868.
C. Naik, F. Caron, J. Rousseau.
- 2019 **Do speed cameras reduce road traffic collisions?**, *PLoS ONE*, 14(9): e0221267.
D.J. Graham, C. Naik, E.J. McCoy, H. Li.
- 2017 **Multiply robust dose-response estimation for multivalued causal inference problems**, *preprint*, arXiv:1611.02433.
C. Naik, E.J. McCoy, D.J. Graham.

Talks and Poster Presentations

- Sep 2021 **2021 Bayesian Young Statisticians Meeting**, *contributed session*.
A Recursive Construction for Hilbert Coresets (Honorable mention for best talk in Theory and Methods)
- Jun 2021 **2021 ISBA World Meeting**, *contributed session*.
Sparse networks with core-periphery structure
- Dec 2020 **CMStatistics**, *contributed session*.
Bayesian nonparametrics for sparse dynamic networks
- Jun 2019 **Bayesian Nonparametrics 12**, *poster*.
Sparse networks with core-periphery structure
- Mar 2019 **Workshop on Machine Learning, Computational Statistics and Applications, Amazon Development Centre, Germany**, *poster*.
Sparse networks with core-periphery structure

Awards

- 2016 Winton Capital Prize for Best Student, Imperial College London, Statistics MSc.
- 2015 Andrew Jennings Scholarship, Imperial College London.
- 2015 Jesus College Scholarship, University of Cambridge.
- 2012 British Maths Olympiad - Bronze Award in Round 1 and qualified for Round 2

Computer skills

- Advanced Python, R, MATLAB, \LaTeX
- Intermediate Hive, Presto, Spark, MongoDB, Dataswarm, Git, Mercurial
- Basic C++, Hack, PHP

Interests

- Sport Hockey - West Hampstead Hockey Club 1st Team. Tennis. Squash.
- Volunteering Oxford Maths Festival - 2019, 2020 (Team Leader)