Chun Yui (Nicholas) Wong

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Education

2018–2021 **PhD in Computational Engineering, University of Cambridge**
Topic: Simulation-based design with polynomial ridge approximations.
3 journal publications (2 first-authored), 3 conference presentations.

2014–2018 **B.A./M.Eng in Information Engineering, University of Cambridge**
Class I, top 3% each year

Research summary

My PhD straddles the boundary between **machine learning** and **engineering design**. The goal is to apply statistical methodologies to understand the relationship between design parameters and performance metrics, in the face of limited computational budgets. My work has been presented to senior engineers at Rolls-Royce and considered for deployment in manufacturing pipelines.

Work Experience

2017–Present **Open-source Developer at equadratures**
- Model development platform with over 40000 downloads and 1000 users, including Rolls-Royce, Siemens and the U.K. Atomic Energy Authority.
- Developed dimension reduction, sparse regression, sensitivity analysis and Bayesian statistics methods in Python, enabling data-driven engineering studies.
- Offered workshop tutorials to data scientists and design engineers in industry.
- Wrote technical blog posts exposing code functionality and applications.

Summer 2020 **Mentor at Google Summer of Code**
- Advised undergraduate student to research and implement regression trees.
- Held weekly meetings and wrote appraisal reports to evaluate student performance.

2019–2020 **Undergraduate supervisor for engineering**
- Coordinated small-group tutorial sessions for undergraduates.
- Designed tutorial material to aid understanding and provide constructive feedback on student work.

Summer 2018 **Cambridge Mathematics Placement, Department of Biochemistry**
- Developed mathematical models to reconstruct incomplete NMR data.
- Collaborated with non-experts in statistics to evaluate methods in application.

Summer 2017 **Research internship at Machine Intelligence Lab, Cambridge**
- Designed Python user interface for C++ library for label propagation in computer vision.

Summer 2016 **Software engineering internship at ASM Pacific Technology, HK**
- Implemented unit tests in C++ for actuating an ultrasonic transducer.
- Developed user interface for monitoring I/O ports with C# and XAML in Visual Studio.

Skills and Languages

- **Computer Programming**: Regular use of Python including `numpy`, `scipy`, `scikit-learn`, `pandas`, `matplotlib/seaborn`. Regular use of LaTeXand Unix command line including version control with `git`. Some experience with C++, MATLAB, C#, XAML.
- **Presentation software**: Keynote, Microsoft PowerPoint, Jupyter Notebooks including Google Colaboratory.
- **Languages**: Native Cantonese/Mandarin Chinese. Fluent English. Elementary Japanese.

Awards and Sponsorship

PhD

- Cambridge Trust Scholarship
- Funding from Lloyd's Register Foundation and the Alan Turing Institute
- Hogwood Scholarship from Jesus College, Cambridge
- Conference travel grant from Jesus College, Cambridge
- Computing equipment sponsored by Rolls-Royce plc.

Undergraduate

- H E Durham Fund from King's College, Cambridge
- Kelly Prize, Benefactors' Prize and Evans Prize for top performing student in Engineering Tripos in Jesus College, Cambridge

Olympiads

- Silver award at the 45th International Physics Olympiad in Astana, Kazakhstan
- Honourable mention at the 14th Asian Physics Olympiad in Bogor, Indonesia
- Silver award at the 8th International Junior Science Olympiad in Durban, South Africa

Interests and volunteering

2015–2016 **President/Director of Cambridge University Chinese Orchestra Society**

- Oversaw weekly rehearsals and social gatherings.
- Organised annual concert with over 300 attending.
- Managed inventory of instruments and music scores.
- Liaised with sponsors and musicians to support operation.

2019–2021 **Volunteer at Diocesan Boys' School, HK**

- Designed and conducted mock interview sessions for prospective undergraduates.
- Gave talks introducing and promoting engineering at Cambridge.

Summer 2019 **Volunteer at Open day at Cambridge engineering**

- Advised prospective students on life at Cambridge and studying engineering.

2014 **Editor for Eureka for the Archimedeans society at Cambridge**

- Magazine for showcasing informal and recreational mathematics research.
- Promoted the magazine to prospective authors in the math department.
- Formatted and edited articles in Adobe InDesign.