Chun Yui (Nicholas) Wong

Department of Engineering, University of Cambridge
Email: cyw28@cam.ac.uk
Address: Jesus College, Cambridge, U.K.
Links: Google Scholar, ResearchGate

Education

- **July 2021 (expected)**: PhD, Computational Design, University of Cambridge
  Supervisor: Dr. Geoffrey T. Parks, Dr. Pranay Seshadri

    - Project title: *Dimension Reduction Ideas for Scalable and Efficient Robust Design Paradigms in Turbomachinery*

- **2018**: B.A./M.Eng (Hons.), Information and Computer Engineering, University of Cambridge

    - Class I, within 3rd percentile of year group of 300 for part IA, IB and IIA.
    - Final Year Project: *Polynomial Approximations and Sensitivity Analysis via Compressed Sensing*

Scholarships and Awards

- **2018**: Cambridge Trusts Scholarship

- **2018**: Lloyds Register Foundation Award (via the Alan Turing Institute)

- **2018**: Hogwood Scholarship, Jesus College, Cambridge

- **2018**: Funding from Rolls Royce plc.

- **2018**: Kelly Prize for the Engineering Tripos

- **2017**: College Prize and Scholarship for Part IIA Engineering

- **2016**: Benefactor's and Engineers' Prize for Part IB Engineering

- **2015**: Evans Prize and Scholarship for Part IA Engineering

- **2014**: Silver award at the 45th International Physics Olympiad

- **2014**: Honourable mention at the 14th Asian Physics Olympiad Olympiad

- **2011**: Silver award at the 8th International Junior Science Olympiad

Publications and Presentations

- **Wong, C. Y.**, Seshadri, P., Parks, G. T., Girolami, M., (2019) *Embedded Ridge Approximations: Constructing Ridge Approximations Over Localized Scalar Fields For Improved Simulation-Centric Dimension Reduction.* Preprint. Poster presented at FrontUQ workshop in Pisa, Italy.

- **Wong, C. Y.**, Seshadri, P., Parks, G. T., (2019) *Extremum Global Sensitivity Analysis with Least Squares Polynomials and their Ridges.* Preprint.

Work Experience

- **2017-Present**: Developer at *Effective Quadratures*

  - Giving regular workshop tutorials exposing the capabilities related to supervised machine learning using the code. Locations include:
    * Rolls Royce plc. Derby, U.K.
    * UK Atomic Energy Authority, Culham, U.K.
  - Coded up routines for least-squares regression and compressed sensing recovery of orthogonal polynomial approximation models.
  - Coded up routines for subspace-based dimension reduction.
  - Developing unit tests for numerical methods.

- **2018**: Cambridge Mathematics Placement at the Department of Biochemistry, University of Cambridge

  - Developed techniques related to ℓ_1 minimization to recover NMR scan data from incomplete time-domain samples.

- **2017**: Undergraduate research project at Machine Intelligence Lab, Department of Engineering, Cambridge

  - Designed Python user interface for C++ library for label propagation in computer vision.
  - Improved functionality of library to handle wider range of image sequences more quickly.

- **2016**: Software engineering internship at ASM Pacific Technology, Hong Kong

  - Implemented unit tests for existing library functions for actuating an ultrasonic transducer.
  - Improved GUI for mobilizing the library with usability tests.
  - Developed new interface for monitoring I/O ports with C# and XAML in Visual Studio.

- **2015**: Undergraduate research project at Centre of Smart Infrastructure, CUED

  - Coded AVR controller for collecting data using a tilt sensor.

Teaching

- 2P7 Vector Calculus: Michaelmas 2019

- 3M1 Mathematical Methods: Lent 2020, Lent 2019

- 1P4 Mechanical Vibrations: Easter 2019

Extra-curricular Activities

- **2015-16**: President/Director of Cambridge University Chinese Orchestra Society

  - Responsible for overseeing the operation of the orchestra, including managing rehearsals, performances, sponsorship and promotions.
  - Hosting annual concert attended by around 150 people.

- **2014**: Editor for 64th annual mathematical magazine Eureka for the Archimedeans society at Cambridge

  - Editing technical articles using Adobe InDesign.

- **2012-13**: Instructor and leader of school physics Olympiad team

Skills and Languages

- **Computer Programming**: Python, C++, C, MATLAB, C#/XAML. Basic Linux skills.

- **Languages**: Native Cantonese/Mandarin Chinese. Fluent English. Elementary Japanese.