Chung Hang Edwin Fong

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Education

University of Oxford **Oxford**
PhD in Statistics *Expected 2018 – 2022*
Supervisor: Professor Chris Holmes
Thesis title: 'The Predictive View of Bayesian Inference and Model Selection'

- In partnership with **The Alan Turing Institute**
- Research interests include Bayesian inference, missing data, model misspecification, nonparametric methods, uncertainty quantification

University of Cambridge **Cambridge**
MEng in Information Engineering *2014 – 2018*

- Distinction (Top-ranked in the year)
- Courses include computational neuroscience, machine learning, molecular bioengineering, signal processing

Research & Work Experience

Roche **Welwyn Garden City**
Biostatistics PhD intern *Sept 2020 – Nov 2020*
Supervisor: Chris Harbron

- Developed R packages for generating synthetic clinical trial data and benchmarking machine learning algorithms in healthcare settings.

Department of Statistics and Data Sciences, UT Austin **Austin**
Visiting researcher *Oct 2019 – Nov 2019*
Collaborator: Professor Stephen G. Walker

- Investigated the foundations of Bayesian uncertainty and prediction, leading to the work titled "Martingale posterior distributions".

Department of Biochemistry, Chinese University of Hong Kong **Hong Kong**
Research intern *June 2016 – Aug 2016*

- Synthesized a gene cassette using standard molecular biology cloning techniques, such as PCR, restriction digestion, ligation, and bacterial transformations.

Thales **Hong Kong**
Software engineering intern *July 2015 – Aug 2015*

- Built an automatic integration test harness for Ticket Vending Machines in Hong Kong's Mass Transit Railway, programmed in C++ and Python.

Publications & Preprints

E. Fong, C. Holmes, and S. G. Walker, "Martingale posterior distributions," *arXiv preprint arXiv:2103.15671*, 2021.

E. Fong and C. Holmes, "On the marginal likelihood and cross-validation," *Biometrika*, vol. 107, no. 2, pp. 489–496, 2020.

E. Fong, S. Lyddon, and C. Holmes, "Scalable Nonparametric Sampling from Multimodal Posteriors with the Posterior Bootstrap," in *International Conference on Machine Learning 2019*. Oral (long).

Awards & Scholarships

International Conference on Machine Learning 2019 Travel Award — **Long Beach**
Funding to support travel to ICML 2019 — *2019*

Wolfson College Travel Grant — **Oxford**
Funding to support travel to ICML 2019 — *2019*

The Alan Turing Institute Doctoral Studentship — **London**
Funding for international tuition fees and stipend for PhD studies for 3.5 years — *2018 – 2022*

Charles Lamb Prize — **Cambridge**
Awarded to the top-ranked engineer in information engineering in Part IIB of MEng — *2018*

3rd Year Prize for Bioengineering — **Cambridge**
Awarded to the top-ranked bioengineer in Part IIA of MEng — *2017*

3rd Year Prize for Computer-based Project — **Cambridge**
Awarded to a top computer-based project in Part IIA of MEng — *2017*

Bill Brown Prize — **Cambridge**
Awarded to the top-ranked engineer in Churchill College each year — *2016 – 2018*

Invited Talks

Approximate Bayesian Computation in Svalbard 2021 — **Online**
Invited speaker — *Apr 2021*
Title: 'Martingale Posteriors: Bayesian Uncertainty via Imputation'

International Conference on Machine Learning 2019 — **Long Beach**
20 minute oral presentation, awarded to top 20% of papers — *June 2019*
Title: 'Scalable Nonparametric Sampling from Multimodal Posteriors with the Posterior Bootstrap'

Teaching

Department of Statistics, University of Oxford — **Oxford**
Tutor/teaching assistant — *Jan 2019 – Mar 2021*
Bayes Methods (Master's course)

Programming Skills & Languages

Proficient in Python, R and Matlab.

Fluent: English, Cantonese **Intermediate**: French, German