

Chung Hang Edwin Fong

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Education

University of Oxford

PhD in Statistics

Oxford

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

MEng in Information Engineering

Cambridge

2014 – 2018

◦ Distinction (Top-ranked in the year)

◦ Courses include computational neuroscience, machine learning, molecular bioengineering, signal processing

Research & Work Experience

Roche

Biostatistics PhD intern

Welwyn Garden City

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

Visiting researcher

Austin

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

Research intern

Hong Kong

June 2016 – Aug 2016

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

Thales

Software engineering intern

Hong Kong

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.

Preprints & Publications

E. Fong and C. Holmes, “Conformal Bayesian computation,” *arXiv preprint arXiv:2106.06137*, 2021.

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 Funding to support travel to ICML 2019	Long Beach 2019
Wolfson College Travel Grant Funding to support travel to ICML 2019	Oxford 2019
The Alan Turing Institute Doctoral Studentship Funding for international tuition fees and stipend for PhD studies for 3.5 years	London 2018 – 2022
Charles Lamb Prize Awarded to the top-ranked engineer in information engineering in Part IIB of MEng	Cambridge 2018
3rd Year Prize for Bioengineering Awarded to the top-ranked bioengineer in Part IIA of MEng	Cambridge 2017
3rd Year Prize for Computer-based Project Awarded to a top computer-based project in Part IIA of MEng	Cambridge 2017
Bill Brown Prize Awarded to the top-ranked engineer in Churchill College each year	Cambridge 2016 – 2018

Invited Talks

Approximate Bayesian Computation in Svalbard 2021 <i>Invited speaker</i> Title: 'Martingale Posteriors: Bayesian Uncertainty via Imputation'	Online Apr 2021
International Conference on Machine Learning 2019 <i>20 minute oral presentation, awarded to top 20% of papers</i> Title: 'Scalable Nonparametric Sampling from Multimodal Posteriors with the Posterior Bootstrap'	Long Beach June 2019

Teaching

Department of Statistics, University of Oxford <i>Tutor/teaching assistant</i> Bayes Methods (Master's course)	Oxford Jan 2019 – Mar 2021
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Programming

Python (JAX, PyMC3, scikit-learn), R (Stan, tidyverse)

Languages

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