Christine, Yueming Shen
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Education

Duke University — Durham, US

PhD in Statistical Science; Advisor: Surya Tokdar — *Expected Aug 2026*

Master of Statistical Science; Advisors: Peter Hoff, Alexander Volfovsky — *Aug 2019 – May 2021*

- Thesis: Comparison of Bayesian inference methods for probit network models

The Chinese University of Hong Kong — Hong Kong, China

Bachelor of Business Administration with Honors — *Sep 2007 – Jul 2011*

- Major: Insurance, Financial and Actuarial Analysis; Minor: Statistics, German

University of Toronto — Toronto, Canada

International Exchange Student in Actuarial Science — *Sep 2009 – Dec 2009*

Presentation

A Bayesian competing risks model with spatially varying coefficients for readmission risk in elderly patients with upper extremity fractures

- Contributed talk, 2025 Joint Statistical Meetings — Aug 2025

Bayesian model evaluation using p-values

- Poster session, 2024 ISBA World Meeting (**Best poster award**) — Jul 2024
- Poster session, 2024 The Bayesian Young Statisticians Meeting — Jun 2024

Publication

Preprints and working paper

Shen, Y., C. Pean, D. Dunson, and S. Berchuck (2025). *Discovering spatial patterns of readmission risk using a Bayesian competing risks model with spatially varying coefficients.* Under review at the Journal of the American Statistical Association. arXiv: 2511.20616.

Shen, Y. and S. Tokdar (2026a). "Asymptotic well-calibrated Bayesian p-value using the Kolmogorov-Smirnov statistic". Submitted to the Annals of Statitics. arXiv: 2504.14077.

— (2026b). "Bayesian model evaluation with p-values". Working paper.

Journal

Kahan, R., C. Shen, P. Wellborn, A. Lauder, S. Berchuck, H. Javeed, C. Pean, and A. Federer (Jan. 2026). "Artificial Intelligence in Triaging Patient Questions: An Evaluation of a Large Language Model for Distal Radius Fractures". In: *Journal of the American Academy of Orthopaedic Surgeons* 34.1, e106–e115. DOI: 10.5435/JAAOS-D-25-00456.

Qualifications and Awards

- ASA-SBSS Student Paper Award — 2026
- Duke Statistical Science Department PhD Student BEST Award — 2023 – 2024
- Duke Statistical Science Department PhD Student TA of the Year Award — 2022 – 2023
- Duke Statistical Science Department Master Student TA of the Year Award — 2020 – 2021
- Duke Graduate School Dean's Research Award — Oct 2020
- Chartered Financial Analyst (CFA) — May 2018 – May 2019
- Chartered Enterprise Risk Analyst (CERA) — Jan 2015 – Dec 2021
- Fellow of the Society of Actuaries (FSA) — Mar 2014 – Dec 2021
- CUHK Certificate of Academic Merit — Jan 2009
- CUHK Mainland Student Full Admission Scholarship — Jul 2007

Research Experience

Duke University Durham, US
AI Health Fellowship *Jan 2024 – Present*

- Quantitative mentor: Samuel Berchuck; Clinical mentor: Christian Pean
- Provided statistical and methodological support for orthopaedic clinical research projects in collaboration with practicing surgeons at Duke Hospital
- Designed and implemented statistical analyses for observational clinical data to study readmission risk of fractures patient , identify key risk factors and underlying spatial patterns
- Communicated statistical findings to clinical collaborators and translated methodological results into clinically interpretable conclusions

Teaching experience

Duke University Durham, US
STA 602 Bayesian Statistics – TA *Spring 2025, Fall 2020*

- Master level course with about 40 students. Instructor: Li Ma (2020), Alexander Fisher (2025)

STA 725 Bayesian Health Data Science – Guest lecturer *Spring 2025*

- Two lectures on scalable Gaussian processes. Instructor: Samuel Berchuck

STA 832 Multivariate Analysis – TA *Fall 2023*

- PhD level course with about 20 students. Instructor: Peter Hoff

STA 602 Course Enhancement *Summer 2023*

- Created two new labs to better align lab materials with lectures. Instructor: Li Ma

Master Program Math and Stats Virtual Bootcamp – Instructor *Summer 2023*

- Created over 20 pre-recorded videos for three modules: calculus, linear algebra, and probability

Master Program Math and Stats Bootcamp – Instructor *Summer 2022*
STA 732 Statistical Inference – TA *Spring 2023*

- PhD level course with about 20 students. Instructor: Yuansi Chen

STA 199 Intro to Data Science – Head TA *Fall 2021, 2022*
STA 532 Theory of Inference – TA *Spring 2021*

- Master level course with about 40 students. Instructor: Surya Tokdar

STA 360/ 602 Bayesian Statistics – TA *Summer II 2020*
STA 230 Probability – TA *Summer I 2020*
STA 440 Case Studies – Guest lecturer on Web Scraping *Nov 2019*

Work experience

Ernst & Young Hong Kong, China
Manager in Actuarial and Insurance Advisory Services, Life Insurance Team *Oct 2017 – Aug 2019*

- Delivered actuarial advisory projects in HKRBC, Insurance Capital Standards and IFRS17
- Managed annual life insurance company actuarial audit projects under PRC GAAP and HKFRS basis

Eastspring Investments Hong Kong Hong Kong, China
Investment Analyst, Infrastructure Investment Team *Aug 2016 – Oct 2017*

- Executed infrastructure investment deals in private equity, private debt and fund investments
- Built financial models for a $500 million investment with the International Financial Corporation in emerging markets infrastructure projects, structured as a collateralized debt investment fund

Prudential Corporation Asia Hong Kong, China
Senior Analyst, Stochastic Modelling and Strategic Asset Allocation Team *Jul 2011 – Jul 2016*

- Signed-off economic assumptions and in-house stochastic simulation file production
- Developed derivatives and alternative assets modelling capacity

- Provided quantitative support on strategic asset allocation projects such as short-term vs long-term hedging, asset and liability duration matching
- Developed automation tools for simulation production which enhances calibration capacity from one single simulation file per week to over 800 simulation files overnight

Prudential Hong Kong Limited Hong Kong, China
Secondment, Participating Fund Management Team *Nov 2014 – Jun 2015*

- Delivered feasibility study on infrastructure assets investment for the participating business funds

Secondment, Actuarial Pricing Team *Nov 2013 – Jun 2014*

- Revamped and launched a Universal Life product

Prudential Corporation Asia Hong Kong, China
Intern, Stochastic Modelling and Strategic Asset Allocation Team *Jun 2010 – Dec 2010*

Skills

Languages: Mandarin (Native), Cantonese and English (Fluent) **Programming**: R, Stan