

EDUCATION**Duke University***PhD in Statistical Science; Advisor: Surya Tokdar**Master of Statistical Science; Advisors: Peter Hoff, Alexander Volfovsky*

Durham, US

Expected Sep 2026

Aug 2019 – May 2021

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

The Chinese University of Hong Kong*Bachelor of Business Administration with Honors*

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

Hong Kong, China

Sep 2007 – Jul 2011

University of Toronto*International Exchange Student in Actuarial Science*

Toronto, Canada

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 Jul 2024
- Poster session, 2024 The Bayesian Young Statisticians Meeting Jun 2024

PUBLICATION*Publications may appear under Yueming Shen or Christine Shen***Preprints and working papers**

- [1] 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.
- [2] Shen, Y. and S. Tokdar (2026a). “Asymptotic well-calibrated Bayesian p-value using the Kolmogorov-Smirnov statistic”. Submitted to the Annals of Statistics. arXiv: 2504.14077.
- [3] — (2026b). “Bayesian model evaluation with p-values”. Working paper.

Journal

- [4] 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.

AWARDS AND QUALIFICATIONS

- ASA-SBSS Student Paper Award 2026
- ISBA World Meeting Best Poster Award 2024
- 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***AI Health Fellowship*

Durham, US

Jan 2024 – Present

- Quantitative mentor: Samuel Berchuck, Assistant Professor of the Department of Biostatistics & Bioinformatics; Clinical mentor: Christian Pean, Assistant Professor of Orthopaedic Surgery
- 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

Instructor

- Master's Virtual Math & Stat Bootcamp (Summer 2023)
 - Revamped lecture materials to adapt to the virtual format
 - Created over 20 pre-recorded videos on three learning modules: Linear algebra, Calculus, and Probability
- Master's Math & Stat Bootcamp (Summer 2022)
 - Taught five lectures (2–3 hours each) on Probability, Frequentist and Bayesian inference

Guest Lecturer

- STA 725 Bayesian Health Data Science (Spring 2025)
 - Instructor: Samuel Berchuck
 - Developed and delivered two lectures on Scalable Gaussian Processes [Lecture 1, Lecture 2].
- STA 440 Case Studies (Spring 2025)
 - Instructor: Fan Li
 - Delivered one lecture on web scraping.

Course Enhancement

- STA 602 Bayesian Statistical Modeling (Summer 2023)
 - Instructor: Li Ma
 - Developed two new labs to better align with lecture materials.
- STA 323 / 523 Statistical Computing (Spring 2020)
 - Instructor: Shawn Santo
 - Enhanced the efficiency and flexibility of an R Shiny leaderboard for a prediction competition assignment, by developing functionality to read in submissions, validate inputs, flag errors, compute scores, and visualize both current and historical team performance.

Teaching Assistant (TA)

- STA 602 Bayesian Statistical Modeling (Spring 2025, Fall 2020)
 - Instructors: Alex Fisher (Spring 2025), Li Ma (Fall 2020)
 - Master's level course with ~ 40 students. Led lab sessions and held office hours.
- STA 832 Multivariate Analysis (Fall 2023)
 - Instructor: Peter Hoff
 - PhD level course with ~ 20 students. Held office hours and graded assignments.
- STA 732 Statistical Inference (Spring 2023)
 - Instructor: Yuansi Chen
 - PhD level course with ~ 20 students. Held office hours and graded assignments.
- STA 199 Intro to Data Science (Fall 2022, Fall 2021) (**Head TA**)
 - Instructors: Elijah Meyer (Fall 2022), Alex Fisher (Fall 2021)
 - Undergraduate level course with ~ 150 students, 12 TAs (Fall 2022), and ~ 90 students, 5 TAs (Fall 2021)
 - Led lab sessions, held office hours, coordinated TA work assignment, facilitated communications between instructors and TAs, and handled ad-hoc administrative and student-related issues.
- STA 532 Theory of Statistical Inference (Spring 2021)
 - Instructor: Surya Tokdar
 - Master's level course with ~ 40 students. Held office hours and graded assignments.
- STA 360/ 602 Bayesian Statistical Modeling (Summer II 2020)
 - Instructor: Olanrewaju Michael Akande
 - Undergraduate and master's level course with 12 students. Led lab sessions, held office hours, and graded assignments.

- STA 230 Probability (Summer I 2020)
 - Instructor: Henry Kirveslahti
 - Undergraduate level course with ~ 40 students.

WORK EXPERIENCE

Ernst & Young	Hong Kong, China
<i>Manager in Actuarial and Insurance Advisory Services, Life Insurance Team</i>	<i>Oct 2017 – Aug 2019</i>
• 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
<i>Investment Analyst, Infrastructure Investment Team</i>	<i>Aug 2016 – Oct 2017</i>
• 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
<i>Senior Analyst, Stochastic Modelling and Strategic Asset Allocation Team</i>	<i>Jul 2011 – Jul 2016</i>
• 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
<i>Secondment, Participating Fund Management Team</i>	<i>Nov 2014 – Jun 2015</i>
• Delivered feasibility study on infrastructure assets investment for the participating business funds	
<i>Secondment, Actuarial Pricing Team</i>	<i>Nov 2013 – Jun 2014</i>
• Revamped and launched a Universal Life product	
Prudential Corporation Asia	Hong Kong, China
<i>Intern, Stochastic Modelling and Strategic Asset Allocation Team</i>	<i>Jun 2010 – Dec 2010</i>