Xinyi Wang

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EDUCATION

The University of Chicago, Chicago Incoming Fall
Ms in Statistics, expected in May 2025

The Chinese University of Hong Kong, Hong Kong Sep 2019 – Jul 2023
B.Sc. with honors (first class) in Risk Management Science, Minor in Statistics
Stream: Risk Analytics, Overall GPA: 3.82/4.00 (Rank 1/30), Major GPA: 3.88/4.00

- Academic honours: Dean's Honors List (2019 – 2020, 2020 – 2021, 2021 – 2022)
- Scholarships: Bang How Memorial Scholarships (2020 – 2021, 2 out of 800); Chung Chi College Class Scholarship (2020 – 2021, 2021 – 2022); Department of Statistics Scholarships (2021 – 2022, 2022 – 2023, 2 out of 40); Q.W. Lee Scholarships (2022 – 2023, 2 out of 800)

RESEARCH EXPERIENCE

A Semiparametric Approach for Robust Modeling of Electronic Health Record Linked Biobank Data Oct 2022 – Present
Research Assistant Supervised by Prof. Molei Liu, Columbia University

- Literature review on large sample sieve estimation of semi-nonparametric models and semi-supervised validation of multiple surrogate outcomes with application to electronic medical records phenotyping
- Motivated by the low robustness under nonlinear genetic effects in the previous semi-supervised validation method
- Proved the consistency, convergence rate and the asymptotic root n normality of the proposed estimators in classification and validation of the EHR features which contains step functions referring to asymptotic statistics by van der Vaart
- Ran simulation studies for three settings and increased accuracy of parameters in two nonlinear settings while maintaining comparable accuracy in one linear setting compared to the previous method without sieves
- Preparing the corresponding manuscript as a co-first author

An Adaptive Test on Cox Model Jul 2022 – Oct 2022
Research Assistant Supervised by Prof. Tony Sit, the Chinese University of Hong Kong

- Literature review on an adaptive test that yields high statistical power under various high-dimensional scenarios, and social network dependence with time to event data modelled by the latent Cox model
- Proved the convergence to zero of the third moment of Cox score function under i.i.d. condition

Transformed Dynamic Quantile Regression under Biased Sampling. Jul 2021 – Oct 2022
Research Assistant Supervised by Prof. Tony Sit, the Chinese University of Hong Kong

- Literature review on biased sampling and quantile regression with censored data and dynamic Box-Cox transformation
- Developed a transformed dynamic estimation method of quantile regression under biased sampling
- Implemented estimation algorithms via R and Linux server, designed numerical studies to verify the estimation accuracy and overcame inefficient computation by parallel computing
- Proved asymptotic properties of the proposed estimators and the wild bootstrap method using product integral

EXTRA-CURRICULAR ACTIVITIES

Risk Management Challenge, the Professional Risk Managers' International Association Jan 2021 – Mar 2021
Team Leader

- Led the team to APAC top 3
- Divided a huge task into different parts and allocated tasks to teammates
- Reported both the risk and the performance of an options market-making desk
- Analysed risk under GARCH model with R and generated dashboards to present risk analysis

Voluntary Teaching, Three-Heart Club, the Chinese University of Hong Kong Apr 2020
Teacher

- Taught English to children of the doctors who saved lives during COVID-19
- Collaborated with other members of the teaching team in building the syllabus

SKILLS

Programming & Language

- Proficient in R, Python, SAS, MATLAB, C, SQL, Linux, LaTeX, and Excel VBA
- Fluent in English (TOEFL 106/120 taken in 2022; GRE V156 Q170 taken in 2022); Native in Mandarin; Conversational in Cantonese