Yikun Li

Basic Information

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Education

Doctor of Philosophy in Statistics and Data Science   **2023-present**
Department of Statistics and Data Science, Northwestern University   *Evanston, IL, USA*

Master in Statistics and Data Science   **2023-2025**
Department of Statistics and Data Science, Northwestern University   *Evanston, IL, USA*

Bachelor of Science in Statistics   **2019-2023**
School of Mathematical Sciences, Peking University   *Beijing, China*

Research Experiences

Research Assistant   **June 2022-August 2022**
Chongqing Research Institute of Big Data, Peking University
Advisor: Haochen Li, Pingwen Zhang
Project: Machine Learning Based Analysis of Meteorological Data and Forecasting
Contribution: designed a machine learning based model "*MOML*" to provide high-resolution prediction of weather conditions and meteorological disasters with meteorological data.

Undergraduate Dissertation   **Sept. 2022-June 2023**
School of Mathematical Sciences, Peking University
Advisor: Wei Lin
Project: Variance-Reduced Methods in Off-Policy Estimation
Contribution: proposed a new algorithm under the off-policy *Natural Actor-Critic* (NAC) framework to reduce the exponentially large variance induced by the traditional importance sampling method.

Research Assistant   **July 2024-present**
Department of Statistics and Data Science, Northwestern University
Advisor: Matey Neykov
Project: Robust Signal Detection with Quadratically Convex Orthosymmetric Constraints
Contribution: proved the optimal theoretical minimax lower bound for the signal detection problem with data corruption and *quadratically convex orthosymmetric* (QCO) constraints; proposed a robust testing algorithm that achieves the optimal minimax rate with polynomial-time complexity.

Teaching Experiences

Northwestern University

Teaching Assistant, STAT 320-1: Introduction to Statistical Methods I	**Fall 2024**
Teaching Assistant, STAT 420-2: Introduction to Statistical Methods II	**Winter 2025**
Teaching Assistant, STAT 210-1: Introduction to Probability and Statistics	**Spring 2025**
Teaching Assistant, STAT 344: Statistical Computing	**Fall 2025**

Academic Services

Reviewer for *Electronic Journal of Statistics*, 2025

Honors and Awards

Peking University

Merit Student, Academic Year 2019-2020

Award for Academic Excellence, Academic Year 2020-2021

Merit Student, Academic Year 2021-2022

Excellent Graduate, Class of 2023

Second prize, Chinese Mathematics Competition for College Students (class A), 2020

Second prize, Chinese Mathematics Competition for College Students (class A), 2021

Third Class Scholarships (¥4000), Academic Year 2019-2020

Third Class Scholarships (¥4000), Academic Year 2020-2021

Third Class Scholarships (¥4000), Academic Year 2021-2022

Skills

Programming

Proficient: C, Python, R, SQL, MATLAB, LaTeX

Beginner: Mathematica, SPSS, CUDA, OpenMP, MPI

Languages

Chinese (Native), English (Fluent)