Xiaowei **Yin**

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Education

Renmin University of China *Sep. 2021 - Jun. 2025*
B.S. in Statistics *(expected)*
- GPA: 3.77/4.0 (89.1), RANK 4/12, YEAR 1-3
- Relevant coursework: Mathematical Analysis I(97) II(92) III(90) | Higher Algebra I(90) II(93) | Probability Theory (91) | Real Analysis (92) | Mathematical Statistics (83) | Optimization (83) | Statistical Computing(89) | Stochastic Processes (86) | Nonparametric Statistics(94) | C Programming(90)| Functional Analysis

Research Interests

My research interests lie at the intersection of machine learning theory and causal inference. I am also keen on adaptive experiments, subgroup analysis, and reinforcement learning theory. Additionally, I am fascinated by topics such as AI for Science and Healthcare, where leveraging advanced AI tools to address complex health issues is particularly intriguing to me.

Research Experience

Integrating Subgroup Identification with Adaptive Experimentation *March. 2024 - Present*
Core Member, Supervised by Prof. Waverly Wei @ USC & Prof. Jingshen Wang @ UC Berkeley
- Objective: Create a pipeline that first identifies subgroups from data, then uses adaptive experiments to improve the selection of the best subgroups.
- Investigated prospective methods for subgroup identification.
- Found a method that consistently identify subgroups with heterogeneous treatment effects (HTE) and define them with clear rules.
- Implemented an algorithm in R that identify subgroups with HTE in stage 1 and adaptively revise propensity score in the following stages to confirm the best subgroup.
- Conducted extensive simulation experiments for empirical investigation and verification for the proposed method.

Enhancing the Performance of Multi-Label Classification Models for Knowledge Tagging *Dec. 2023 - Feb. 2024*
Core Group Member, Supervised by Prof. Xing Wang @ Renmin University
- Objective: Analyze model output to identify reasons for suboptimal performance and apply targeted statistical methods to improve it.
- Conducted exploratory data analyses of model outputs, strategically creating error-type matrices to elevate the evaluation of the multi-label classification model's performance.
- Investigated unsupervised and semi-supervised learning methods to address data quality issues, such as errors in true label annotations.

Predicting the Secondary Market through Graph Neural Networks *May. 2023 - Dec. 2023*
Group Member, Supervised by Prof. Wenbing Huang @ Renmin University
- Explored applications of machine learning and deep learning in financial forecasting through a comprehensive review of relevant literature, gaining insights into real-world effectiveness and challenges.
- Modeled graph structures based on the characteristics of options markets and coauthored the project report.

Honors & Awards

2023 **Academic Excellence Award,** Third Class . Renmin University of China
2022 **Academic Excellence Award,** Second Class . Renmin University of China

Service

Statistical Investigation Association of Renmin University *Sep. 2022-Jun. 2023*
- Taught R programming to beginners within the university and promoted activities for the association.

Skills & Hobbies

Programming R, Python, C/C++, LaTeX
Languages Chinese(native), English(TOEFL 104)
Hobbies Swimming, Running, Guitar, Watercolor Painting