

Likun Zhang

📍 Beijing, China ✉ zhanglk6@ruc.edu.cn ☎ +86 13711012799 in zhanglk6 🌐 zhanglk6

Research Interests

Causal inference, adaptive design, machine learning methods, precision medicine

Education

Renmin University of China (RUC), Beijing, China Aug 2021 – Jun 2026
(expected)
PhD in Statistics, Institute of Statistics and Big Data

- Advisor: Drs. Wei Ma, Zheng Zhang, Yang Liu, Feifang Hu
- Performed preliminary reviews for manuscripts submitted to *Statistica Sinica*, *Statistics in Medicine*, and *Statistical Methods in Medical Research*

University of California, Berkeley (UCB), CA, United States Aug 2019 – Dec 2019
Statistics Exchange Program

Sun Yat-sen University (SYSU), Guangdong, China Aug 2017 – Jun 2021
B.S. in Statistics, School of Mathematics

- Advisor: Drs. Hui Huang, Xueqin Wang, Guang Yang
- GPA: 4.0/4.0 (Ranking: 1/79)
- 2018 National Scholarship for academic excellence and whole person development (Ranking: 1/231)

Publication and Revision

Zhang, L. & Ma, W. (2025). Interaction Tests With Covariate-Adaptive Randomization. Statistical Analysis and Data Mining: The ASA Data Science Journal, 18(1), e70003; doi.org/10.1002/sam.70003 [↗](#) Jan 2025

- Corrected standard interaction tests to achieve nominal rejection levels under covariate-adaptive randomization
- Proposed stratified-adjusted interaction tests that are simple, powerful, and broadly applicable
- Encompassed both stratification covariates and additional covariates not used in randomization
- Guided valid and efficient interaction testing and subgroup analysis for practical randomized controlled trials

Zhang, L. & Ma, W. (2025). Efficient Interaction Analysis in Randomized Controlled Trials. Biometrics (Major revision) Jun 2025

- Introduced a model-free framework for interaction analysis in randomized controlled trials
- Advocated a clearly defined target parameter for interaction analysis
- Computed semiparametric efficiency bound and proposed novel semiparametric efficient methods, equipped with nonparametric and machine learning techniques

Working Paper

Zhang, L. & Ma, W. (2025). Covariance-Driven Regression Trees: Reducing Overfitting in CART. Submitted Aug 2025

- Proposed a covariance-driven splitting criterion for regression trees (CovRT), which is more robust to overfitting than CART
- Demonstrated that CovRT attains the same high-dimensional consistency rate as CART
- Reduced prediction risk by approximately 24% on the Boston Housing dataset using a much shallower tree

Cui et al. (2025). Age-Related Variation and Associated Factors of Intrinsic Capacity Across Adulthood: Findings From the Nationwide PENG ZU Study in China. Submitted Jul 2025

- Cooperated with doctors from Beijing Institute of Geriatrics, Beijing Hospital
- Characterized age-related variation in intrinsic capacity (IC) and identified factors associated with IC

Research Experience

Data Analyst: Impact of Atmospheric Pollutants on Respiratory Diseases

*Guangdong
Jan 2020 – Jun 2021*

Southern China Center For Statistical Science, SYSU

- Cooperated with doctors from Xi'an Jiaotong University
- Investigated lagged effects of atmospheric pollutants on respiratory diseases

Working Experience

Quant: Quantitative Investment Research With Machine Learning

*Guangdong
Feb 2019 – Dec 2019*

Southern China Center For Statistical Science, SYSU

- Simulated stock price prediction strategies with machine learning methods

Conference Talks

Interaction Analysis in Randomized Controlled Trials

*Beijing
Apr 2025*

Invited talk at RUC Mathematics Time

Interaction Tests With Covariate-Adaptive Randomization

*Yunnan
Jul 2024*

Contributed talk at the 2nd Joint Conference on Statistics and Data Science in China (2024 JCSDS)

Technologies

Languages: R, Python, C++, Java, C#, SQL, MATLAB