Xin Lu

Tsinghua University | lux20@mails.tsinghua.edu.cn | google scholar profile

Research interests

Covariate adjustment, randomization-based causal inference, causal inference with interference, causal inference for spatio-temporal data, high-dimensional statistics, statistical learning theory, nonparametric statistics

Education experience

Postdoc in Statistics, Washington University in St. Louis   10/2025 – present
- Advisor: Prof. Bo Li and Prof. James Robins
- Working on: causal inference for spatio-temporal data

Ph.D. in Statistics, Tsinghua University, Beijing   08/2020 – 06/2025
- Advisor: Assoc. Prof. Hanzhong Liu
- Ph.D. dissertation: Design-based theory for the design and analysis of cluster randomized experiments

Visiting scholar researcher, University of California, Berkeley   01/2024 – 05/2024
- Advisor: Assoc. Prof. Peng Ding
- Working paper: Rerandomization for covariate balance mitigates p-hacking in covariate adjustment

B.S. in Mathematics, Tsinghua University, Beijing   09/2016 – 06/2020

Papers

Publications

- **Xin Lu**, Fan Yang, and Yuhao Wang (2025). "Debiased regression adjustment in completely randomized experiments with moderately high-dimensional covariates." Annals of Statistics, accepted.
- **Xin Lu**, and Hanzhong Liu (2024). "Tyranny-of-the-minority regression adjustment in randomized experiments." Journal of the American Statistical Association, published online doi:10.1080/01621459.2024.2366043. (Google Scholar Citation: 2)
- **Xin Lu**, Tianle Liu, Hanzhong Liu, and Peng Ding (2023). "Design-based theory for cluster rerandomization." Biometrika, 110, 2:467-483. (Google Scholar Citation: 12)

Submitted papers

- **Xin Lu**, Hongzi Li, and Hanzhong Liu (2025+). "Estimation and inference of average treatment effects under heterogeneous additive treatment effect model." Journal of the Royal Statistical Society Series B, R&R.
- **Xin Lu**, Yuhao Wang and Zhiheng Zhang (2025+). "Adjusting auxiliary variables under approximate neighborhood interference." Journal of the American Statistical Association, Major Revision.

Working Papers

- **Xin Lu** and Peng Ding (2025). "Rerandomization for covariate balance mitigates p-hacking in regression adjustment." arXiv preprint arXiv:2505.01137.
- **Xin Lu**, Lei Shi, Hanzhong Liu, and Peng Ding. "Unbiased covariate adjustment for randomization-based inference by conditional cross-fitting." arXiv preprint arXiv:2508.15664.

Awards and scholarships

Wang Dazhong Scholarship (only one in the Department of Statistics and Data Science)	2024
China National Scholarship (only one in the Department of Statistics and Data Science)	2024
Candidate for the Tsinghua Presidential Scholarship (only one in the Department of Statistics and Data Science)	2024
Future Professor Training Program (only two in the Department of Statistics and	2023

Data Science)

Second-Class Scholarship, Tsinghua University	2023
Second-Class Scholarship, Tsinghua University	2022

Teaching experience

Teaching assistant at Tsinghua University   Fall 2022
- Introduction to Causal Inference, undergraduate course,   (ranked in the top 5% for teaching evaluation)

Teaching assistant at Tsinghua University   Fall 2021
- Introduction to Causal Inference, undergraduate course   (ranked in the top 25% for teaching evaluation)

Teaching assistant at Tsinghua University   Spring 2021
- Multivariate Statistical Analysis, undergraduate course

Teaching assistant at Tsinghua University   Fall 2020
- Statistical Inference, undergraduate course

Conference

Attendee, Causal Inference: Bridging Theory and Practice, TSIMF	2025
Poster Presenter, The International Congress of Basic Science, Beijing	2024
Poster Presenter, Joint Conference on Statistics and Data Science in China, Beijing	2024
Attendee, American Causal Inference Conference, Seattle	2024
Attendee, Academic Symposium of the High-Dimensional Data Statistics Section, Chinese Association for Applied Statistics, Changsha	2023
Oral Presenter, Tsinghua Doctoral Statistics Colloquium, Beijing	2022
Oral Presenter, Tsinghua Doctoral Statistics Colloquium, Beijing	2021

Journal Review

Journal of Causal Inference