TAO SHEN

Ph.D. Candidate, National University of Singapore
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EDUCATION

National University of Singapore (NUS) *Jan 2023 - Present*
Ph.D. Student in Statistics
- Department: Department of Statistics and Data Science
- Advisor: Dr. Wanjie Wang, Dr. Yifan Cui

National University of Singapore (NUS) *Aug 2021 - Dec 2022*
Master of Science in Statistics
- Department: Department of Statistics and Data Science
- Research Mentor: Dr. Yifan Cui

The Chinese University of Hong Kong, Shenzhen (CUHK-SZ) *Sept 2017 - Jun 2021*
Bachelor of Science in Statistical Science
- Department: School of Data Science (SDS)
- With Honours, First Class

RESEARCH INTEREST

His research centers on causal inference, statistical network analysis, high-dimensional statistics, and decision-making under uncertainty. He develops novel methodologies with strong theoretical guarantees to tackle complex statistical challenges, including optimal individualized decision-making under endogeneity and censoring, variable selection across multiple data sources in high-dimensional settings, and community detection under extremely sparse networks. His work spans multiple disciplines—beyond statistics, he has made contributions to precision medicine and business analytics. His research has broad practical applications in machine learning, healthcare, operations research, management, and social sciences.

PUBLICATIONS

Journal Articles Submitted

Shen, T. and Wang, W. (2024+) Optimal Network-Guided Covariate Selection for High-Dimensional Data Integration. Submitted.

Cui, Y., Liu, J., Shen, T., Qi, Z., and Chen, X. (2024+) Learning Robust Treatment Rules for Censored Data. Submitted.

Conference Papers Published

Shen, T. and Cui, Y. (2024) Optimal Treatment Regimes for Proximal Causal Learning. Advances in Neural Information Processing Systems, 36.

Book Chapter

Shen, T. and Cui, Y. (2024) Statistical Reinforcement Learning and Dynamic Treatment Regimes. Statistics in Precision Health: Theory, Methods and Applications, 163-200.

TEACHING

Tutor for ST3131: Applied Regression Analysis	*Spring 2025*
Student Helper for ST5188: Advanced Data Science Project	*Spring 2025*
Student Helper for ST5188: Advanced Data Science Project	*Fall 2024*
Tutor for ST2334: Probability and Statistics	*Spring 2024*
Student Helper for ST5188: Statistical Research Project	*Spring 2024*
Student Helper for ST5188: Statistical Research Project	*Fall 2023*

TALKS

Spectral Methods for Network-related Complex Data *Sept 2024, Singapore*
- Oral Examination

Proxy-aided Demand Learning with An Application on Various Pricing Problems *Jul 2024, Beijing*
- 7th International Conference on Econometrics and Statistics (EcoSta 2024)

Proxy-aided Demand Learning with An Application on Various Pricing Problems *June 2024, Wuhan*
- International Chinese Statistical Association China Conference 2024 (ICSA 2024)

Optimal Individualized Decision-Making with Proxies *Jun 2023, Chengdu*
- International Chinese Statistical Association China Conference 2023 (ICSA 2023)

Learning Optimal Treatment Regime with Proxies *Dec 2022, London*
- 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2022)

ACHIEVEMENTS

NUS Research Scholarship	*Year 2023-present*
Dean's List Award of School of Data Science	*Year 2020-2021*
Meritorious Winner in 2020 Interdisciplinary Contest in Modeling (ICM)	*Mar 2020*
Dean's List Award of School of Data Science	*Year 2019-2020*
Academic Performance Scholarship of School of Data Science	*Year 2019-2020*
Master's List Award of Shaw College	*Year 2019-2020*
The First Prize in 2019 National University Mathematical Modeling Competition	*Sept 2019*