Xinran Miao

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(Updated January 30, 2025)

RESEARCH INTERESTS

Transportability/generalizability, sensitivity analysis, robust statistics, causal inference.

EDUCATION

Ph.D. in Statistics — Fall 2021 - (Expected) Spring 2026
University of Wisconsin-Madison, USA
- Advisor: Hyunseung Kang

M.S. in Statistics — Fall 2019 - Spring 2021
University of Wisconsin-Madison, USA

B.S. in Statistics — Fall 2016 - Spring 2020
Nankai University, China

AWARDS & HONORS

1. Student Paper Award, awarded by Statistical Learning and Data Science (SLDS) Section, American Statistical Associations, 2025. [ASA Announcement]
2. Outstanding Teaching Assistant (Graduate Courses), awarded by Department of Statistics, University of Wisconsin-Madison, 2024. [Department News]
3. SCI Travel Scholarship, awarded by Society for Causal Inference, 2024.

PUBLICATIONS

* Co-first authors.

Under review/revision

7. **Miao, X.**, Zhao. J. and Kang. H. (2025+), Transfer Learning Between U.S. Presidential Elections: How Should We Learn From A 2020 Ad Campaign To Inform 2024 Ad Campaigns? *Submitted.* [Preprint]
6. Jiang, H.*, **Miao, X.***, Thairu, M., Beebe, M., Grupe, D., Davidson, R.J., Handelsman, J., Sankaran, K. (2025+), multimedia: Multimodal Mediation Analysis of Microbiome Data. *Submitted.* [Preprint]
5. Miao J. , **Miao X.**, Wu Y., Zhao J., Lu Q. (2025+). Assumption-lean and data-adaptive post-prediction inference. *Submitted.* [Preprint]

Published or accepted

4. Miao, J., Wu, Y., Sun, Z., **Miao, X.**, Lu, T., Zhao, J., and Lu, Q., 2024. Valid inference for machine learning-assisted GWAS. *Nature Genetics, 2361–2369.* [Journal]
3. Mao, L., Kim, K. and **Miao, X.**, 2022. Sample size formula for general win ratio analysis. *Biometrics, 78(3), pp.1257-1268.* [Journal]
2. Zheng, M., **Miao, X.** and Sankaran, K., 2022. Interactive Visualization and Representation Analysis Applied to Glacier Segmentation. *ISPRS International Journal of Geo-Information, 11(8), p.415.* [Journal]

1. Hernando, D., Zhao, R., Yuan, Q., Aliyari Ghasabeh, M., Ruschke, S., **Miao, X.**, Karampinos, D.C., Mao, L., Harris, D.T., Mattison, R.J. and Jeng, M.R., Pedrosa, I., Kamel, I.R., Vasanawala, S., Yokoo, T. and Reeder, S.B. 2022. Multicenter Reproducibility of Liver Iron Quantification with 1.5-T and 3.0-T MRI. *Radiology, p.213256.* [Journal]

TEACHING

Teaching Assistant at UW-Madison

- STAT 575: Statistical Methods for Spatial Data. Spring 2024
  Upper-level undergraduate and entry-level graduate course.
- STAT 849: Theory and Application of Regression and Analysis of Variance I.
  First-year, Ph.D./MS course in regression. Fall 2023
- STAT 301: Introductory to Statistics. Fall 2021, Spring 2022, Summer 2024
  Introductory undergraduate course.

PRESENTATIONS

8. Talk, Joint Statistics Meetings, Nashville, TN, August 2025.
   Transfer Learning Between U.S. Presidential Elections.
7. Talk, Models, Experiments, and Data Workshop, Madison, WI, February 2025.
   Transfer Learning Between U.S. Presidential Elections.
6. Talk, Joint Statistical Meetings, Portland, OR, August 2024.
   Transportability Index: A Scalar Summary of Transportation Robustness.
5. Talk & Poster, American Causal Inference Conference, Seattle, WA, May 2024
   Transfer Learning Between U.S. Presidential Elections. [Slides] [Poster]
4. Talk, UW-Madison Statistics Graduate Student Association Seminar, Madison, WI, April 2024.
   Transfer Learning Between U.S. Presidential Elections. [Slides]
3. Talk, Eastern North American Region, Baltimore, MD, March 2024.
   Transportability Index: A Scalar Summary of Transportation Robustness. [Slides]
2. Poster, Statistics and Optimization in Data Science Workshop, West Lafayette, IN, June 2023.
   Efficient Estimation for the Transportability Index.
1. Poster, Midwest Machine Learning Symposium 2023, Chicago, IL, May 2023
   Efficient Estimation for the Transportability Index.

SERVICE

- Reviewer: Journal of Nonparametric Statistics (1), AISTATS (2023).
- Co-founder and organizer, STAT/ML Reading Group at UW-Madison.