

## Shanshan Luo

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Contact Information	Department of Applied Statistics School of Mathematics and Statistics Beijing Technology and Business University Beijing, China, 102488	shanshanluo@btbu.edu.cn <a href="https://shanshanluo.cn/">https://shanshanluo.cn/</a>
Employment	September 2022 - present <i>Lecturer</i> School of Mathematics and Statistics, Beijing Technology and Business University, Beijing, China	
Education	September 2017 - July 2022 <i>Ph.D. in Statistics</i> School of Mathematical Sciences, Peking University, Beijing, China. Advisor: Prof. Yangbo He September 2013 - July 2017 <i>B.S. in Mathematics</i> School of Mathematical Sciences, Capital Normal University, Beijing, China.	
Research Interests	My research primarily focuses on causal inference, with specific interest in the following areas: <ol style="list-style-type: none"><li>1. Causal effect: covariate adjustment, data fusion, instrumental variables, measurement error, principal stratification, propensity scores, spillover effects</li><li>2. Causal attribution: individual attribution analysis, continuous outcome attribution</li><li>3. Causal discovery: Bayesian networks, causal mechanisms of latent confounders, proximal variable selection</li><li>4. Missing data: nonignorable missing data</li></ol>	
Publications	<ol style="list-style-type: none"><li>1. Shanshan Luo, Wei Li*, and Yangbo He. Causal inference with outcomes truncated by death in multiarm studies. <i>Biometrics</i>, 2023; 79(1): 502-513.</li><li>2. Wei Li, Shanshan Luo*, Yangbo He, and Zhi Geng. Subgroup analysis using Bernoulli-gated hierarchical mixtures of experts models. <i>Statistics in Medicine</i>, 2023; 42(26): 4681–4695.</li><li>3. Wei Li, Shanshan Luo, and Wangli Xu*. Calibrated regression estimation using empirical likelihood under data fusion. <i>Computational Statistics &amp; Data Analysis</i>, 2024; 190: 107871.</li><li>4. Honglei Zhang, Shuyi Wang, Haoxuan Li, Chunyuan Zheng, Xu Chen, Li Liu, Shanshan Luo*, and Peng Wu*. Uncovering the limitations of eliminating selection bias for recommendation: missing mechanisms, disentanglement, and identifiability. <i>ICDE</i>, Utrecht, Netherlands, 2024.</li><li>5. Feng Xie, Zhengming Chen, Shanshan Luo*, Wang Miao, Ruichu Cai, and Zhi Geng. Automating the selection of proxy variables of unmeasured confounders. <i>ICML</i>, Vienna, Austria, 2024. (Spotlight)</li><li>6. Kang Shuai, Shanshan Luo, Yue Zhang, Feng Xie, and Yangbo He*. Identification and estimation of causal effects using non-Gaussianity and auxiliary covariates. To appear in <i>Statistica Sinica</i>, 2024.</li><li>7. Kang Shuai, Shanshan Luo*, Wei Li, and Yangbo He. Identifying causal effects using instrumental variables from the auxiliary population. To appear in <i>Statistica Sinica</i>, 2024.</li></ol>	

8. Shanshan Luo, Wei Li\*, Wang Miao, and Yangbo He\*. Identification and estimation of causal effects in the presence of confounded principal strata. *Statistics in Medicine*, 2024; 43(22): 4372-4387.
9. Shaojie Wei, Chao Zhang, Zhi Geng, and Shanshan Luo\*. Identifiability and estimation for potential-outcome means with misclassified outcomes. *Mathematics*, 2024; 12(18):2801.
10. Shanshan Luo, Jiaqi Min, Wei Li, Xueli Wang\*, and Zhi Geng. A comparative analysis of different adjustment sets using propensity score based estimators. *Computational Statistics & Data Analysis*, 2025; 203: 108079.
11. Peng Wu, Shanshan Luo\*, and Zhi Geng. On the comparative analysis of average treatment effects estimation via data combination. To appear in *Journal of the American Statistical Association*, 2024.
12. Shanshan Luo#, Yechi Zhang#, Wei Li\*, and Zhi Geng. Multiply robust estimation of causal effects using linked data. To appear in *Computational Statistics & Data Analysis*, 2025.

\*Corresponding author, #Co-first author.

#### Preprints

1. Shanshan Luo, Mengchen Shi, Wei Li, Xueli Wang, and Zhi Geng. Efficiency-improved doubly robust estimation with non-confounding predictive covariates. *arXiv:2402.14438v1*, 2024.
2. Shanshan Luo, Yixuan Yu, Chunchen Liu, Feng Xie, and Zhi Geng. Assessing the causes of continuous effects by posterior effects of causes. *arXiv:2404.05246v1*, 2024.
3. Wei Li, Yuan Liu, Shanshan Luo, and Zhi Geng. Causal inference with outcomes truncated by death and missing not at random. *arXiv:2406.10554v2*, 2024.

#### Awards

Outstanding Graduate of Beijing, 2017.

#### Grants

National Scholarship, 2021.

Outstanding Graduate of Beijing, 2022.

National Natural Science Foundation of China (Youth Program), 2025 to 2027.

#### Teaching Experience

Applied Stochastic Processes: Fall 2022

Multivariate Statistical Analysis: Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025

Causal Inference: Spring 2023, Fall 2023, Fall 2024, Spring 2025