Zhenghao Zeng

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Research Interests	Causal inference, nonparametric statistics, high-dimensional statistics

Education

Carnegie Mellon University	Pittsburgh, PA
Ph.D. in Statistics	08/2020 – Present
Advisor: Prof. Edward H. Kennedy	

Carnegie Mellon University	Pittsburgh, PA
M.S. in Statistics	08/2020 – 05/2021

University of Science and Technology of China	Hefei, Anhui
B.S. in Statistics	08/2016 – 06/2020

Honors and Awards

Student Paper Award, Statistical Learning and Data Science Section, ASA	2024
ENAR Distinguished Student Paper Award (International Biometric Society ENAR Spring Meeting)	2023
Guo Moruo Scholarship (summa cum laude at USTC)	2019
National Scholarship of China (USTC)	2018

Publications

Zeng, Z., Arbour, D., Feller, A., Addanki, R., Rossi, R., Sinha, R., and Kennedy, E.H. (2024). Continuous Treatment Effects with Surrogate Outcomes. *International Conference on Machine Learning*, 2024.

Zeng, Z., Gu, Y., and Xu, G. (2023). A Tensor-EM Method for Large-Scale Latent Class Analysis with Binary Responses. *Psychometrika*, 88(2), 580-612.

He, Y., Meng, B., **Zeng, Z.** and Xu, G. (2021). On the phase transition of Wilks' phenomenon. *Biometrika*, 108(3), 741-748.

Preprints

Zeng, Z., Balakrishnan, S., Han, Y. and Kennedy, E. H. (2024). Causal Inference with High-dimensional Discrete Covariates. arXiv preprint arXiv:2405.00118. Under review at *Journal of the Royal Statistical Society: Series B*.

Du, J. H., **Zeng, Z.**, Kennedy, E. H., Wasserman, L. and Roeder, K. (2024). Causal Inference for Genomic Data with Multiple Heterogeneous Outcomes. arXiv preprint arXiv:2404.09119. Reject and Resubmit at *Journal of American Statistical Association*.

Bonvini, M., **Zeng, Z.**, Yu, M., Kennedy, E. H., and Keele, L. (2023). Flexibly Estimating and Interpreting Heterogeneous Treatment Effects of Laparoscopic Surgery for Cholecystitis Patients. arXiv preprint arXiv:2311.04359.

Zeng, Z., Kennedy, E. H., Bodnar, L. M., and Naimi, A. I. (2023). Efficient generalization and transportation. arXiv preprint arXiv:2302.00092. Minor Revision at *Statistical Science*.

Levis, A. W., Bonvini, M., **Zeng, Z.**, Keele, L., and Kennedy, E. H. (2023). Covariate-assisted bounds on causal effects with instrumental variables. arXiv preprint arXiv:2301.12106. Reject and Resubmit at *Journal of the Royal Statistical Society: Series B*.

Working Papers   **Zeng, Z.**, Levis, A.W., Kennedy, E.H., and Keele, L. Nonparametric Estimation of Derivative of Dose-Response Curve: with Application to Estimating Local Instrumental Variable Curves.

Zeng, Z., Arbour, D., Feller, A., Dasgupta, I., Sinha, A. Missing Response under Cluster Dependence.

Experience

Adobe Research	San Jose, CA
Research Intern	05/2024 – 08/2024

Mentors: David Arbour, Ishita Dasgupta, Atanu Sinha and Avi Feller (Berkeley)

Adobe Research	San Jose, CA
Research Intern	05/2023 – 08/2023

Mentors: David Arbour and Avi Feller (Berkeley)
Continuous treatment effects with surrogate outcomes.

University of Michigan, Ann Arbor	Ann Arbor, MI
Research Assistant	06/2019 – 09/2019

Mentor: Prof. Gongjun Xu
Large-scale latent class analysis and high-dimensional testing.

Teaching

Teaching assistant, Carnegie Mellon University	08/2020–05/2022

36-225 Introduction to Probability
36-401 Modern Regression
36-402 Advanced Methods for Data Analysis (×2)

Teaching assistant, USTC	09/2019 – 05/2020

Single-variable Calculus
Regression Analysis

Talks	**International Conference on Computational & Methodological Statistics (CMStatistics)**	Virtual
	Continuous treatment effects with surrogate outcomes	12/2024
	Joint Statistical Meetings (JSM)	Portland, OR
	Causal inference with high-dimensional discrete covariates	08/2024
	American Causal Inference Conference (ACIC)	Seattle, WA
	Causal inference with high-dimensional discrete covariates	05/2024
	Causal Inference and Missing Data Group at Inria	Virtual
	Efficient generalization and transportation	02/2024
	American Causal Inference Conference (ACIC)	Austin, TX
	Causal inference with high-dimensional discrete covariates	05/2023
	International Biometric Society ENAR Spring Meeting	Nashville, TN
	Efficient generalization and transportation	03/2023

Academic Service

Reviewer

American Journal of Epidemiology (1)
Biometrika (3)
Electronic Journal of Statistics (5)
Journal of American Statistical Association (2)
Journal of Causal Inference (1)
Journal of the Royal Statistical Society: Series B (1)

Organizer

CMU Causal Inference Reading Group (2024-)