Alec McClean

Contact

Legal name: Alexander Haderlein-McClean
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Education

Carnegie Mellon University
Ph.D., Statistics — May 2024
Thesis: Heterogeneity, Optimality, and Sensitivity in Causal Inference
M.S., Statistics — May 2021

Swarthmore College
B.A., Economics and Mathematics — May 2016
Phi Beta Kappa

Research Interests

Theory: causal inference; functional estimation; nonparametric statistics and machine learning

Applications: economics; healthcare services research; criminology; medicine

Research Projects

Matteo Bonvini*, **Alec McClean***, Zach Branson, and Edward H. Kennedy. Incremental causal effects: an introduction and review. In Handbook of Matching and Weighting Adjustments for Causal Inference, pages 349–372, 2023.

*Equal contribution

Alec McClean, Zach Branson, and Edward H. Kennedy. Nonparametric estimation of conditional incremental effects. *Journal of Causal Inference*, 12(1):20230024, 2024.
Poster presentations at ACIC 2022, ENAR Spring Meeting 2023, and JSM 2023

Leah A. Jacobs, **Alec McClean**, Zach Branson, Edward H. Kennedy, and Alex Fixler. Incremental Propensity Score Effects for Criminology: An Application Assessing the Relationship Between Homelessness, Behavioral Health Problems, and Recidivism. *Journal of Quantitative Criminology*, pages 1–20, 2023.

Alec McClean, Edward H. Kennedy, Sivaraman Balakrishnan, and Larry Wasserman. Double Cross-fit Doubly Robust Estimators: Beyond Series Regression. arXiv preprint arXiv:2403.15175, 2024.
Winner of the Ten Have poster competition at ACIC 2023

Alec McClean, Zach Branson, Edward H. Kennedy. Calibrated sensitivity models. arXiv preprint arXiv:2405.08738, 2024.
Presentations at CMStatistics 2023 and ACIC 2024

Software

Contributor to `npcausal` `R` package https://github.com/ehkennedy/npcausal.

Academic Service

Reviewer for *Bernoulli*, the *American Journal of Epidemiology*, and *ACIC 2024*
CMU Statistics Student Activities Committee representative — 2019 - Present
CMU Statistics Student Mentor — 2020 - Present
Pittsburgh ASA CMU student representative — 2022 - Present

Teaching

Department of Statistics and Data Science, Carnegie Mellon University

As Course Instructor

Undergraduate Introduction to Statistical Inference	Summer 2022

As Teaching Assistant

Undergraduate Introduction to Statistical Inference (Head TA and backup instructor)	Spring 2024
Graduate Intermediate Statistics (Head TA)	Fall 2023
Undergraduate Optum Summer Research Experience	Summer 2023
Undergraduate Causal Inference	Spring 2022 & 2023
Graduate Causal Inference	Fall 2022
Undergraduate Advanced Methods for Data Analysis (Head TA)	Spring 2021
Undergraduate Methods for Statistics	Summer 2021
Undergraduate Modern Regression	Fall 2019

Heinz College of Information Systems and Public Policy, Carnegie Mellon University

Graduate Statistical Reasoning with R (Head TA)	Fall 2020 & 2021

Awards

Tom Ten Have award for "exceptionally creative or skillful research on causal inference" at the 2023 American Causal Inference Conference

PhD Teaching Assistant of the Year, 2024, Carnegie Mellon University, Statistics & Data Science Department

Carnegie Mellon University Graduate Student Assembly Travel awards to present research at (1) 2023 CMStatistics, (2) 2023 Joint Statistical Meetings, and (3) 2022 American Causal Inference Conference

Phi Beta Kappa, Swarthmore College — Spring 2016

Work Experience

Senior Research Analyst, The Brattle Group — 2018 - 2019

- Managed teams of 10+ junior analysts in developing econometric and statistical models (including zero-inflated Poisson, Cox survival, and hierarchical Bayes) to create a state-of-the-art economic structural model of the health insurance industry.
- Acquired extensive case experience in the health care industry with a focus on modelling expected claims incurred by health insurance subscribers and company likeliness to switch insurers.

Research Analyst, The Brattle Group — 2016 - 2018

- Cleaned, analyzed, and organized large data sets ($>$ 100 GBs) using SQL, R, and Python.
- Created a $>$50 script data processing pipeline to efficiently clean and collate several TBs of data into analyzable data sets for project team use.

Skills

R, Python, LaTeX, Microsoft Office