Alec McClean

Contact

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Current Position

New York University Grossman School of Medicine
Postdoctoral Fellow
Causal inference, statistics, and machine learning for healthcare

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

Alec McClean, Y. Li, S. Bae, M. McAdams-DeMarco, I. Díaz, W. Wu. Fair comparisons of causal parameters with many treatments and positivity violations. arXiv preprint arXiv:2411.14285, 2024.

A. Levis, E.H. Kennedy, **Alec McClean**, S. Balakrishnan, and L. Wasserman. Stochastic interventions, sensitivity analysis, and optimal transport. arXiv preprint arXiv:2411.14285 (2024).

Alec McClean, E.H. Kennedy, S. Balakrishnan, and L. 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, Z. Branson, E.H. Kennedy. Calibrated sensitivity models. arXiv preprint arXiv:2405.08738, 2024.
Presentations at CMStatistics 2023 and ACIC 2024

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, Z. Branson, and E.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

Research Projects

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.

Software

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

Academic Service

Reviewer for *ACIC 2024*, the *American Journal of Epidemiology*, the *Annals of Statistics*, *Behavioral Research Methods*, *Bernoulli*, *Biometrika*, *JASA Theory & Methods*, *Observational Studies*, the *Review of Economics and Statistics*, and *Statistics in Medicine*

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

Phi Beta Kappa, Swarthmore College — Spring 2016

Work Experience

Statistical consultant, Charlie Health — 2024 - Present

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