Alec McClean

Contact

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Education

Carnegie Mellon University
Ph.D., Statistics — May 2024 (Expected)
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 and machine learning methods

Applications: healthcare services research; criminology; medicine

Research Projects

Nonparametric Estimation of Conditional Incremental Effects
Under review at the Journal of Causal Inference
https://arxiv.org/pdf/2212.03578.pdf
Poster presentations at ACIC 2022, ENAR Spring Meeting 2023, and JSM 2023

Incremental causal effects: an introduction and review
Published in the Handbook of Matching and Weighting Adjustments for Causal Inference, 2023
https://arxiv.org/abs/2110.10532

Incremental Propensity Score Effects for Criminology: An Application Assessing the Relationship Between Houselessness, Behavioral Health Problems, and Recidivism
Minor revision at the Journal of Quantitative Criminology
https://arxiv.org/abs/2305.14040

Ongoing Work

Double Cross-fit Doubly Robust Estimators: Beyond Series Regression
Winner of the Ten Have poster competition at ACIC 2023
https://alecmcclean.github.io/files/ACIC2023.pdf

Academic Service

Referee for *Bernoulli*
CMU Statistics Student Activities Committee representative — 2019 - Present
Pittsburgh ASA CMU student representative — 2022 - Present

Teaching

Department of Statistics and Data Science, Carnegie Mellon University

As Course Instructor

Introduction to Statistical Inference	Summer 2022

As Teaching Assistant

Optum Summer Undergraduate Research Experience	Summer 2023
Undergraduate Causal Inference	Spring 2022 & 2023
Graduate Causal Inference	Fall 2022
Advanced Methods for Data Analysis (served as Head TA)	Spring 2021
Methods for Statistics	Summer 2021
Modern Regression	Fall 2019

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

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

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.

Awards

Phi Beta Kappa, Swarthmore College — Spring 2016
Cumulative undergraduate GPA: 3.91

Kwink Trophy, Swarthmore College — Spring 2016
Senior who best exemplifies the five principles of Service, Spirit, Scholarship, Society and Sportsmanship

Scholar Athlete of the Year — Fall 2014
Centennial Conference All-Conference athlete with the highest GPA

Skills

R, Python, LaTeX, Microsoft Office