Eli Ben-Michael

(412)-268-9108 | ebenmichael@cmu.edu | 4800 Forbes Ave, Pittsburgh PA | ebenmichael.github.io

EDUCATION

University of California, Berkeley, Berkeley, CA — December 2020
PhD in Statistics, Dissertation Committee: Avi Feller, Peng Ding, Jesse Rothstein, Bin Yu

Columbia University, Columbia College, New York, NY — May 2016
Bachelor of Arts, *Summa Cum Laude*, Computer Science and Statistics

ACADEMIC APPOINTMENTS

Carnegie Mellon University, Pittsburgh, PA — August 2022 -
Heinz College of Information Systems & Public Policy
Department of Statistics & Data Science
Assistant Professor

Harvard University, Cambridge, MA — January 2021 - August 2022
Department of Statistics
Institute for Quantitative Social Science
Postdoctoral Fellow

FORTHCOMING AND PUBLISHED ARTICLES

Ben-Michael, E., L. Page, and L. Keele (2024+). Approximate Balancing Weights for Clustered Observational Study Designs. *Statistics in Medicine*. arXiv:2301.05275

Ben-Michael, E., K. Imai, and Z. Jiang (2024+). Policy Learning with Asymmetric Counterfactual Utilities. *Journal of the American Statistical Association*

Ben-Michael, E., A. Feller, and E. Hartman (2024). Multilevel Calibration Weighting for Survey Data. *Political Analysis 32*(1), 65–83

Lin, V., L. P. Morency, and **E. Ben-Michael** (2023). Text-Transport: Toward Learning Causal Effects of Natural Language. In *Conference on Empirical Methods in Natural Language Processing*

Ben-Michael, E. and L. Keele (2023). Using Balancing Weights to Target the Treatment Effect on the Treated when Overlap is Poor. *Epidemiology 4*(34), 637–644

Soriano, D., **E. Ben-Michael**, P. J. Bickel, A. Feller, and S. D. Pimentel (2023). Interpretable Sensitivity Analysis for Balancing Weights. *Journal of the Royal Statistical Society, Series A: Statistics in Society*

Ben-Michael, E., A. Feller, and J. Rothstein (2023). Varying Impacts of Letters of Recommendation on College Admissions. *The Annals of Applied Statistics 17*(4), 2843–2864
American Statistical Association Social Statistics Section Student Paper Award winner

Lu, B., **E. Ben-Michael**, A. Feller, and L. Miratrix (2023). Is it who you are or where you are? Accounting for compositional differences in cross-site treatment variation. *Journal of Educational and Behavioral Statistics 48*(4), 420–453
American Statistical Association Editors Choice 2023

Ben-Michael, E., D. Arbour, A. Feller, A. Franks, and S. Raphael (2023). Estimating the effects of a California gun control program with Multitask Gaussian Processes. *The Annals of Applied Statistics 17*(2), 985–1016

Keele, L. J., **E. Ben-Michael**, A. Feller, R. Kelz, and L. Miratrix (2023). Hospital Quality Risk Standardizations via Approximate Balancing Weights. *The Annals of Applied Statistics 17*(2), 901–928

Ben-Michael, E., A. Feller, and J. Rothstein (2022). Synthetic controls with staggered adoption. *Journal of the Royal Statistical Society. Series B: Statistical Methodology 84*(2), 351–381
SF ASA Student Travel Award winner, Thomas R. Ten Have Poster Award runner up

Haber, N. A., E. Clarke-Deelder, A. Feller, E. R. Smith, J. A. Salomon, B. MacCormack-Gelles, E. M. Stone, C. Bolster-Foucault, J. R. Daw, L. A. Hatfield, C. E. Fry, C. B. Boyer, **E. Ben-Michael**, C. M. Joyce, B. S. Linas, I. Schmid, E. H. Au, S. E. Wieten, B. Jarrett, C. Axfors, V. T. Nguyen, B. A. Griffin, A. Bilinski, and E. A. Stuart (2022). Problems with evidence assessment in COVID-19 health policy impact evaluation: A systematic review of study design and evidence strength. *BMJ Open 12*(1)

Ben-Michael, E., A. Feller, and J. Rothstein (2021). The Augmented Synthetic Control Method. *Journal of the American Statistical Association 116*(536), 1789–1803

Ben-Michael, E., A. Feller, and E. Stuart (2021). A trial emulation approach for policy evaluations with group-level longitudinal data. *Epidemiology 32*, 533–540

Elser, H., **E. Ben-Michael**, D. Rehkopf, S. Modrek, E. A. Eisen, and M. R. Cullen (2019). Layoffs and the mental health and safety of remaining workers: a difference-in-differences analysis of the US aluminium industry. *Journal of Epidemiology and Community Health 73*, 1094–1100

PREPRINTS AND WORKING PAPERS

Levis, A. W., **E. Ben-Michael**, and E. H. Kennedy (2024). Intervention effects based on potential benefit. arXiv:2405.08727 [stat]

Ben-Michael, E., M. L. Doucette, A. Feller, A. D. McCourt, and E. A. Stuart (2024). Statistical methods to estimate the impact of gun policy on gun violence. arXiv:2404.11506

Ben-Michael, E., D. J. Greiner, M. Huang, K. Imai, Z. Jiang, and S. Shin (2024). Does AI help humans make better decisions? A methodological framework for experimental evaluation. arXiv:2403.12108

Lin, V., **E. Ben-Michael**, and L. P. Morency (2024). Optimizing Language Models for Human Preferences is a Causal Inference Problem. arXiv:2402.14979

Sun, L., **E. Ben-Michael**, and A. Feller (2024). Temporal Aggregation for the Synthetic Control Method. arXiv:2401.12084

Sun, L., **E. Ben-Michael**, and A. Feller (2023). Using Multiple Outcomes to Improve the Synthetic Control Method. arXiv:2311.16260

Jia, Z., **E. Ben-Michael**, and K. Imai (2023). Bayesian Safe Policy Learning with Chance Constrained Optimization: Application to Military Security Assessment during the Vietnam War. arXiv:2307.08840

Ben-Michael, E., A. Feller, R. Kelz, and L. Keele (2022). Estimating Racial Disparities in Emergency General Surgery. arXiv:2209.0431

Zhang, Y., **E. Ben-Michael**, and K. Imai (2022). Safe Policy Learning under Regression Discontinuity Designs with Multiple Cutoffs. arXiv:2208.13323

Yi Zhang: American Statistical Association Social Statistics Section Student Paper Award winner

Ben-Michael, E., D. A. Hirshberg, A. Feller, and J. Zubizarrta (2021). The Balancing Act in Causal Inference. arXiv:2110.14831

Ben-Michael, E., D. J. Greiner, K. Imai, and Z. Jiang (2021). Safe Policy Learning through Extrapolation: Application to Pre-trial Risk Assessment. arXiv:2109.11679

BOOK CHAPTERS

Cohn, E. R., **E. Ben-Michael**, A. Feller, and J. R. Zubizarreta (2023). Balancing Weights for Causal Inference. In J. R. Zubizarreta, E. A. Stuart, D. S. Small, and P. R. Rosenbaum (Eds.), *Handbook of Matching and Weighting Adjustments for Causal Inference* (1 ed.)., Chapter 16, pp. 293–312. Boca Raton, FL: Chapman & Hall/CRC

OPEN SOURCE STATISTICAL SOFTWARE

`augsynth`: `R` implementation of the augmented synthetic control method

`multical`: `R` package for multilevel calibration weighting

`balancer`: `R` package for balancing weights in observational studies

PRESENTATIONS

Invited

2024

Boston University Department of Economics; Columbia University Department of Political Science

2023

International Conference on Health Policy Statistics; Cowles Foundation Conference on Econometrics; Joint Statistical Meetings; University of Pittsburgh Department of Epidemiology

2022

London School of Hygiene and Tropical Medicine, Centre for Statistical Methodology; Joint Statistical Meetings; Linkedin; National Research Conference on Firearm Injury Prevention; IMS International Conference on Statistics and Data Science; International Conference on Computational and Methodological Statistics; Bank of England

2021

Johns Hopkins CICADAS Seminar; RAND Center for Causal Inference Symposium; Johns Hopkins Causal Inference Seminar; Harvard Applied Statistics Workshop; Berkeley Machine Learning and Science Forum

2020

Online Causal Inference Seminar

Contributed

2023

American Causal Inference Conference

2022

American Causal Inference Conference

2021

Asian Political Methodology Meetings; ENAR Spring Meeting; Annual Meeting of the Society for Political Methodology; Joint Statistical Meetings (ASA Social Statistics Section Student Paper Award Winner)

2020

Annual Meeting of the Society for Political Methodology; Joint Statistical Meetings (SFASA Student Travel Award winner); Econometric Society World Congress; Association for Public Policy Analysis & Management Fall Research Conference; BigSurv20

2019

Society for Research on Educational Effectiveness; Atlantic Causal Inference Conference (Thomas R. Ten Have Poster Award runner up); Berkeley-Stanford Econometrics Jamboree

2018

7th Causal Inference Workshop at UAI; European Winter Meeting of the Econometric Society

AWARDS AND HONORS

American Causal Inference Conference Travel Award	2022
American Statistical Association Social Statistics Section Student Paper Award	2021
American Statistical Association, San Francisco Bay Area Chapter, Student Travel Award	2020

Department fellowship, Department of Statistics, U.C. Berkeley 2018
Two years of funding through RTG grant: Advancing Machine Learning - Causality and Interpretability

Phi Beta Kappa, Columbia University 2016

Computer Science Department Award, Columbia University 2016
Given to the top two graduating seniors each year

TEACHING

Carnegie Mellon University

90-739: Systems Synthesis	Spring 2024
90-777: Intermediate Statistics	Fall 2023
36-490/36-497 Statistics Research (and Corporate) Capstones	Fall 2023
36-402: Advanced Data Analysis	Spring 2023

U.C. Berkeley Department of Statistics *Graduate Student Instructor*

Stat 232: Experimental Design with Sam Pimentel	Fall 2018
Stat 159/259: Reproducible and Collaborative Data Science with Fernando Perez	Fall 2017

INSTITUTIONAL SERVICE

Joint Statistics and Public Policy PhD admissions committee, CMU Winter 2022 -

PhD admissions committee, Department of Statistics, UC Berkeley Spring 2020

Co-president of the Berkeley Statistics Graduate Student Association Fall 2018 - Spring 2019

Reviewer for *American Economic Review: Insights*, *American Journal of Epidemiology*, *Annals of Applied Statistics*, *Biometrical Journal*, *Biometrics*, *Biometrika*, *Econometrica*, *Epidemiology*, *INFORMS Journal on Data Science*, *Journal of the American Statistical Association*, *Journal of Applied Econometrics*, *Journal of Business & Economic Statistics*, *Journal of Causal Inference*, *Journal of Econometrics*, *Journal of Educational and Behavioral Statistics*, *Journal of Quantitative Criminology*, *Journal of the Royal Statistical Society, Series A, B, and C*, *Management Science*, *Political Analysis*, *Population Health Metrics*, *Quantitative Economics*, *Statistics in Medicine*, and *Statistics and Public Policy*

WORK EXPERIENCE

Uber, New York, NY Summer 2019
Data Science Intern

Walmart Labs, Sunnyvale, CA Summer 2017
Machine Learning Scientist Intern

Knewton, New York, NY Summer 2016
Data Science Intern