

# Eli Ben-Michael

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(412)-268-9108 | ebenmichael@cmu.edu | 4800 Forbes Ave, Pittsburgh PA | [ebenmichael.github.io](https://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.**, A. Feller, R. Kelz, and L. Keele (2024+). Estimating Racial Disparities in Emergency General Surgery. arXiv:2209.0431
- Lin, V., **E. Ben-Michael**, and L. P. Morency (2024). Optimizing Language Models for Human Preferences is a Causal Inference Problem. In *Conference on Uncertainty in Artificial Intelligence*. arXiv: arXiv:2402.14979
- Sun, L., **E. Ben-Michael**, and A. Feller (2024). Temporal Aggregation for the Synthetic Control Method. In *AEA Papers and Proceedings*, Volume 114, pp. 614–617
- Ben-Michael, E.**, L. Page, and L. Keele (2024). Approximate balancing weights for clustered observational study designs. *Statistics in Medicine* 43(12), 2332–2358
- 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
- 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
- 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
- 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. Zubizarreta (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

2024

**Invited:** Boston University Department of Economics; Columbia University Department of Political Science; Banff International Research Station: Bridging Prediction and Intervention Problems in Social Systems

**Contributed:** Annual Meeting of the Society for Political Methodology; Joint Statistical Meetings

2023

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

**Contributed:** American Causal Inference Conference

2022

**Invited:** 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

**Contributed:** American Causal Inference Conference

2021

**Invited:** Johns Hopkins CICADAS Seminar; RAND Center for Causal Inference Symposium; Johns Hopkins Causal Inference Seminar; Joint Statistical Meetings (*ASA Social Statistics Section Student Paper Award Winner*); Harvard Applied Statistics Workshop; Berkeley Machine Learning and Science Forum

**Contributed:** Asian Political Methodology Meetings; ENAR Spring Meeting; Annual Meeting of the Society for Political Methodology

2020

**Invited:** Online Causal Inference Seminar

**Contributed:** 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

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

2018

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

## AWARDS AND HONORS

American Statistical Association Editors Choice, Journal of Educational and Behavioral Statistics	2023
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

36-309/36-749 Experimental Design for Behavioral & Social Sciences Fall 2024  
 95-796: Statistics for IT Managers Fall 2024  
 90-777: Intermediate Statistics Fall 2023, 2024  
 90-739: Systems Synthesis Spring 2024  
 36-490/36-497 Statistics Research (and Corporate) Capstones Fall 2023  
 36-402: Advanced Data Analysis Spring 2023

### U.C. Berkeley 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*