

# Eli Ben-Michael

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## 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.**, D. J. Greiner, M. Huang, K. Imai, Z. Jiang, and S. Shin (2025). Does AI help humans make better decisions? A statistical evaluation framework for experimental and observational studies. *Proceedings of the National Academy of Sciences* 122(38)
- Jia, Z., **E. Ben-Michael**, and K. Imai (2025+). Bayesian Safe Policy Learning with Chance Constrained Optimization: Application to Military Security Assessment during the Vietnam War. *Journal of the Royal Statistical Society, Series A: Statistics in Society*
- Lin, V., L. P. Morency, and **E. Ben-Michael** (2025). Isolated Causal Effects of Natural Language. In *International Conference on Machine Learning*
- Ben-Michael, E.**, D. J. Greiner, K. Imai, and Z. Jiang (2025). Safe Policy Learning through Extrapolation: Application to Pre-trial Risk Assessment. *Journal of the American Statistical Association* 120(551), 1386–1399
- Keele, L., **E. Ben-Michael**, M. Lenard, and L. Page (2025). Balancing Weights for Estimating Treatment Effects in Educational Studies. *Journal of Research on Educational Effectiveness*, 1–28
- Sun, L., **E. Ben-Michael**, and A. Feller (2025+). Using Multiple Outcomes to Improve the Synthetic Control Method. *Review of Economics and Statistics*
- Gemmell, A., A. M. Franks, S. Anjur-Dietrich, A. Ozinsky, D. Arbour, E. A. Stuart, **E. Ben-Michael**, A. Feller, and S. O. Bell (2025). US Abortion Bans and Infant Mortality. *Journal of the American Medical Association*  
**American Statistical Association 2025 Outstanding Statistical Application Award winner**
- Bell, S. O., A. M. Franks, D. Arbour, S. Anjur-Dietrich, E. A. Stuart, **E. Ben-Michael**, A. Feller, and A. Gemmell (2025). US Abortion Bans and Fertility. *Journal of the American Medical Association*  
**American Statistical Association 2025 Outstanding Statistical Application Award winner**
- Ben-Michael, E.**, A. Feller, R. Kelz, and L. Keele (2025). Estimating racial disparities in emergency general surgery. *Journal of the Royal Statistical Society Series A: Statistics in Society* 188(4), 1125–1148
- 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*
- 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* 119(548), 3045–3058
- 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

- Shen, A. A., **E. Ben-Michael**, A. Feller, L. Keele, and J. Murray (2025). Forest Kernel Balancing Weights: Outcome-Guided Features for Causal Inference. arXiv:2512.11751
- Ben-Michael, E.** (2025). Partial identification via conditional linear programs: estimation and policy learning. arXiv:2506.12215
- Huang, M., **E. Ben-Michael**, M. McHugh, and L. Keele (2025). Sensitivity Analysis for Clustered Observational Studies with an Application to the Effectiveness of Magnet Nursing Hospitals. arXiv:2504.21617
- Jiang, Z., **E. Ben-Michael**, D. J. Greiner, R. Halen, and K. Imai (2024). Longitudinal Causal Inference with Selective Eligibility. arXiv:2410.17864

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

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

## 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

2025

**Invited:** International Conference on Health Policy Statistics; University of Washington Center for Statistics and the Social Sciences; University of Washington Department of Statistics; Pennsylvania State University Center for Social Data Analytics; Joint Statistical Meetings; UC Irvine Statistics Seminar

**Contributed:** American Causal Inference Conference, Annual Meeting of the Society for Political Methodology

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; Johns Hopkins University Department of Biostatistics

**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 Outstanding Statistical Application Award	2025
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

## 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

Statistics PhD admissions committee, CMU	Winter 2024
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Organizer, Heinz Informal Lunch Seminar	Fall 2023 -
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*, *Operations Research*, *Political Analysis*, *Population Health Metrics*, *Quantitative Economics*, *Statistics in Medicine*, and *Statistics and Public Policy*

## WORK EXPERIENCE

<b>Uber</b> , New York, NY <i>Data Science Intern</i>	Summer 2019
<b>Walmart Labs</b> , Sunnyvale, CA <i>Machine Learning Scientist Intern</i>	Summer 2017
<b>Knewton</b> , New York, NY <i>Data Science Intern</i>	Summer 2016