

# Eli Ben-Michael

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## EDUCATION

**University of California, Berkeley**, Berkeley, CA Expected 2021  
PhD in Statistics, Advisors: Avi Feller and Peng Ding

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

## PUBLISHED ARTICLES

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

**Ben-Michael, E.**, A. Feller, and J. Rothstein (2020). Variation in impacts of letters of recommendation on college admissions decisions: Approximate balancing weights for treatment effect heterogeneity in observational studies

**Ben-Michael, E.**, A. Feller, and E. Stuart (2020). A trial emulation approach for policy evaluations with group-level longitudinal data

Keele, L., **E. Ben-Michael**, A. Feller, R. Kelz, and L. Miratrix (2020). Hospital quality risk standardization via approximate balancing weights

**Ben-Michael, E.**, A. Feller, and J. Rothstein (2019). Synthetic controls and weighted event studies with staggered adoption

**Ben-Michael, E.**, A. Feller, and J. Rothstein (2019). The augmented synthetic control method

## OPEN SOURCE STATISTICAL SOFTWARE

[augsynth](#): R implementation of the augmented synthetic control method

## PRESENTATIONS

Varying impacts of letters of recommendation on college admissions  
*Annual Meeting of the Society for Political Methodology* July 2020

Synthetic control and weighted event study models with staggered adoption  
*Online Causal Inference Seminar* September 2020  
*Econometric Society World Congress* August 2020  
*Joint Statistical Meetings* (SFASA Student Travel Award winner) August 2020  
*Berkeley-Stanford Econometrics Jamboree* November 2019  
*Atlantic Causal Inference Conference* (Thomas R. Ten Have Poster Award runner up) May 2019

Multi-level balancing weights for multi-site observational studies  
*Society for Research on Educational Effectiveness* March 2019

The augmented synthetic control method  
*2018 European Winter Meeting of the Econometric Society* December 2018

Matrix constraints and multi-task learning for covariate balance  
*7th Causal Inference Workshop at UAI* August 2018

## AWARDS AND HONORS

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

### 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

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 <i>Econometrica</i> , <i>Journal of the American Statistical Association</i> , <i>Annals of Applied Statistics</i> , <i>Journal of Educational and Behavioral Statistics</i> , <i>Journal of Causal Inference</i> , and <i>Journal of Applied Econometrics</i>	

## WORK EXPERIENCE

<b>Uber</b> , New York, NY	Summer 2019
<i>Data Science Intern</i>	

- Built spatiotemporal models for feature extraction to enhance predictions in dispatch decisions
- Utilized factor analysis and auto-encoding neural networks to learn embeddings of ride behavior
- Created procedures to quickly isolate predictive contribution of features in black box models

<b>Walmart Labs</b> , Sunnyvale, CA	Summer 2017
<i>Machine Learning Scientist Intern</i>	

- Designed models of consumer purchase behavior to learn latent representations of products
- Implemented efficient learning algorithms on tens of millions of consumer purchases with Spark
- Validated the representations' predictive power by reconstructing a human-generated catalog

<b>Knewton</b> , New York, NY	Summer 2016
<i>Data Science Intern</i>	

- Generalized Bayesian models of student learning to incorporate hierarchical structure
- Scaled learning algorithms with a 10x speedup using Spark
- Analyzed performance, strengths, and weaknesses of models on student data

<b>Columbia University Department of Economics</b> , New York, NY	Fall 2014 - Spring 2016
<i>Research Assistant</i>	

- Built a natural language processing text analysis application in Python for use by economists
- Performed econometric and statistical analysis on text data with associated metadata