

Ben Green

Harvard University
Maxwell Dworkin 209
33 Oxford St, Cambridge, MA 02138

Phone: (617) 413-0594
Email: bgreen@harvard.edu
Site: <http://scholar.harvard.edu/bgreen>

INTERESTS	Data, algorithms, and social justice Municipal governance of technology	
AFFILIATIONS	Berkman Klein Center for Internet & Society at Harvard Affiliate Fellow	2018 – Present 2016 – 2018
EDUCATION	Harvard University PhD in Applied Mathematics MS in Applied Mathematics Yale University BS in Mathematics & Physics, with distinction (Cum Laude)	2020 (expected) 2016 2014
GRANTS	Berkman Klein Center for Internet & Society Fellowship Harvard Kennedy School Taubman Center Urban Experience Fellowship NSF Graduate Research Fellowship DOD National Defense Science and Engineering Graduate Fellowship (declined) Herbert Winokur SEAS Graduate Fellowship Eric & Wendy Schmidt Data Science for Social Good Summer Fellowship Dwight Hall at Yale Urban Fellowship New Haven Mayor’s Community Arts Grant Yale President’s Public Service Fellowship Alan S. Tetelman 1958 Fellowship for International Research in the Sciences	2016 2016 2015 2015 2015 2014 2013 2013 2013 2011
BOOKS	Ben Green. <i>The Smart Enough City: Putting Technology in Its Place to Reclaim Our Urban Future</i> . MIT Press. (2019).	
PAPERS	Ben Green and Yiling Chen. “Disparate Interactions: An Algorithm-in-the-Loop Analysis of Fairness in Risk Assessments.” <i>ACM Conference on Fairness, Accountability, and Transparency (ACM FAT*)</i> (2019). Best Technical and Interdisciplinary Paper Ben Green. “‘Fair’ Risk Assessments: A Precarious Approach for Criminal Justice Reform.” <i>5th Workshop on Fairness, Accountability, and Transparency in Machine Learning (ICML)</i> (2018). Ben Green and Lily Hu. “The Myth in the Methodology: Towards a Recontextualization of Fairness in Machine Learning.” <i>Machine Learning: The Debates Workshop (ICML)</i> (2018). Ben Green, Thibaut Horel, and Andrew Papachristos. “Modeling contagion through social networks to explain and predict gunshot violence in Chicago, 2006 to 2014.” <i>JAMA Internal Medicine</i> 177, no. 3 (2017): 326–333. Ben Green, Gabe Cunningham, Ariel Ekblaw, Paul Kominers, Andrew Linzer, and Susan Crawford. “Open Data Privacy: A risk-benefit, process-oriented approach to sharing and protecting municipal data,” <i>Berkman Klein Center Research Publication</i> (2017). Ben Green, Paul Bardunias, J. Scott Turner, Radhika Nagpal, and Justin Werfel. “Excavation and aggregation as organizing factors in de novo construction by mound-building termites.” <i>Proceedings of the Royal Society B</i> 284, no. 1856 (2017).	

Ben Green, Alejandra Caro, Matt Conway, Robert Manduca, Tom Plagge, and Abby Miller. "Mining administrative data to spur urban revitalization." *Proceedings of the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)* (2015).

Ben Green. "Testing and quantifying collective intelligence," *Proceedings of the Collective Intelligence Conference* (2015).

SELECTED TALKS

2019

MIT Press Bookstore
MIT Department of Urban Studies and Planning
Harvard Institute for Learning in Retirement
Carleton University Master of Public Policy and Administration program
Harvard Applied Computation 221: Critical Thinking in Data Science (guest lecture)
Seton Hall University Law School Institute for Privacy Protection Spring Conference
University of California, Irvine
Harvard Sociology 98AB: Urban Politics in the Global City (guest lecture)
Berkman Klein Center Luncheon Series
ACM FAT*
Crime Lab New York
AI Now Institute, NYU

2018

Strategic Leadership Development for Senior Vietnamese Government Officials
MetroLab Annual Summit (panel moderator)
University of Indiana Ostrom Workshop on Smart Cities
Privacy Task Force for New Jersey Municipalities
FATML (ICML workshop)
Machine Learning: The Debates (ICML workshop)
Humboldt University of Berlin Faculty of Law
Boston City Council (invited expert testimony)
Berkman Klein Center Attorney General Tech Forum
Seton Hall Law School Artificial Intelligence and the Law Conference

2017

Seton Hall Law School Institute for Privacy Protection Conference on New and Nontraditional Actors in Privacy and Social Media Regulation
Cambridge City Council (invited expert testimony)
National Network for Safe Communities National Conference
Harvard Data Privacy Lab Talks on Technology Science
LibrePlanet
Boston Area Research Initiative Spring Conference
Future of Privacy Forum Smart Cities working group

2016

City of Cambridge Open Data Review Board
Digital Communities Mid-Year CIO Leadership Group Meeting

2015

KDD
Collective Intelligence

RESEARCH EXPERIENCE

Harvard University
Computer Science Department Graduate research assistant
Criminal justice algorithms September 2017 – Present
Studying the social impacts of risk assessments in the criminal justice system.

Berkman Center for Internet & Society Data governance fellow
Best practices for municipal data governance January 2016 – August 2017
Developed best practices for how cities manage data and technology. Studied the privacy

implications behind open data and developing a framework for assessing privacy risks when sharing data. Provided resources for cities to protect against discrimination when making data-driven decisions. Regularly convened with and presented to municipal leaders.

Yale University

Sociology Department

Gun violence in co-offending networks

Research assistant
January 2014 – January 2017

Studied the structure of criminal networks in eight American cities and identified risk factors for gunshot victims. Analyzed police records on arrests and shootings to model the diffusion of gun violence as an epidemic that spreads from person to person via social interactions. Developed a predictive model for who is at risk to be shot that outperforms traditional approaches.

Harvard University

Computer Science Department

Collective intelligence in termite colonies

Graduate research assistant
September 2014 – May 2016

Studying collective intelligence in termite colonies to determine how termites self-organize to collectively construct mounds. Designed experiments and conducted field research in Namibia. Developed simulations to infer the social dynamics in self-organizing groups of termites.

The Eric & Wendy Schmidt

Data Science for Social Good

Summer Fellowship

Data mining for urban revitalization

Research fellow
June 2014 – August 2014

Worked with the Mayor's Innovation Team in Memphis, TN to identify data-driven strategies for urban revitalization. Developed a machine learning classifier and interactive website to help policymakers and developers identify distressed houses in Memphis.

Yale University

Physics Department

Improved sampling of galaxy clustering

Undergraduate senior thesis
September 2013 – May 2014

Analyzed and developed algorithms and statistical methods to produce accurate sampling of galaxy clusters for the Dark Energy Spectroscopic Instrument.

Yale University

Mechanical Engineering Department

Emergent group behavior of insect swarms

Research assistant
September 2013 – January 2014

Studied the emergent behavior and complex dynamics of insect swarms. Used network applications to analyze the interactions between pairs of insects.

CERN

Statistical tests to detect elementary particles

Research assistant
May 2011 – July 2011

Worked on the ATLAS experiment of the Large Hadron Collider. Analyzed decay patterns of top quarks to search for a Z boson outside of the Standard Model. Conducted statistical analyses of particle collisions, comparing Monte Carlo simulations with recorded ATLAS data.

PROFESSIONAL EXPERIENCE

City of Boston

Department of Innovation & Technology

Municipal data analytics and policy

Data analytics fellow
June 2016 – May 2017

Worked for the Citywide Analytics Team analyzing data and developing policies to aid City Departments improve operations and services. Analyzed Fire Department and EMS responses and made recommendations for process improvements, including a pilot program that pairs public health and medical resources to respond to certain incidents. Aided in the development of policies and practices for a new open data portal.

City of New Haven

Department of Transportation

Improving transportation efficiency and safety

Policy intern
May 2013 – May 2014

Analyzed New Haven's on-street parking regulations and made changes in order to reduce con-

gestion and aid economic development. Coordinated adoption of cellphone payment technology in meters throughout the city. Conceived and initiated process of creating a traffic garden for New Haven. Wrote pedestrian and bicycle safety guides.

Design for America at Yale

Creating artistic bike racks

Team founder and leader

September 2012 – May 2014

Created a team to promote a more sustainable cycling environment in New Haven. Initiated and ran a program matching local artists and businesses to create three downtown bike racks that double as public art. Received a 2013 New Haven Mayor's Community Arts Grant to fund artistic bike racks throughout New Haven.

Litl, Inc.

Machine learning for computer vision

Research and development intern

May 2012 – August 2012

Developed machine learning and computer vision algorithms for the photo-viewing application Woven. Developed a classifier to determine whether a picture was taken indoors or outdoors. Used techniques such as logistic regression, graph clustering, and Bayesian analysis.

TEACHING

Faculty member, UC Irvine Technology, Law, and Society Summer Institute, June 2018.
Course assistant, Harvard Law School Responsive Communities Lab, Fall 2016.
Head teaching fellow, Harvard Computer Science 182: Artificial Intelligence, Fall 2015.
Math and science coordinator, Dwight Hall Academic Mentoring Program at Yale.
Tutor, Yale College Science and Quantitative Reasoning Center.

SERVICE

Program Committee: Black in AI (NeurIPS workshop) 2018; Conference on Fairness, Accountability, and Transparency (FAT*) 2019, International ACM Web Science Conference (WebSci) 2019, Debugging Machine Learning Models (ICLR workshop) 2019, Mechanism Design for Social Good (EC workshop) 2019
Reviews: MIT Press (3x); Big Data & Society; Online Information Review; Data Mining and Knowledge Discovery; npj Digital Medicine
Institutional: Harvard Graduate Student Union Bargaining Committee Member