

Cory McCartan

Curriculum Vitae

November 2023

CONTACT INFORMATION	Center for Data Science, New York University 60 5th Ave New York, NY 10011	(425) 770-9244 corymccartan@nyu.edu
ACADEMIC EMPLOYMENT	The Pennsylvania State University Assistant Professor of Statistics New York University Center for Data Science Data Science Assistant Professor / Faculty Fellow	Expected 2024 2023 – 2024
EDUCATION	Harvard University Ph.D., Statistics, 2023. Advisor: Kosuke Imai. Dissertation: <i>Computational and Bayesian Methods for Geographic Data in the Social Sciences</i> . A.M., Statistics, 2021. Grinnell College B.A., Mathematics, with honors.	2019 – 2023 2015 – 2019
PEER-REVIEWED PUBLICATIONS	“Measuring and Modeling Neighborhoods,” with Jacob R. Brown and Kosuke Imai (2023). <i>American Political Science Review</i> , Conditionally Accepted. “Making Differential Privacy Work for Census Data Users,” with Tyler Simko and Kosuke Imai (2023). <i>Harvard Data Science Review</i> 5:4. “Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans,” with Ko- suke Imai (2023). <i>Annals of Applied Statistics</i> 17:4, 3300-3323. Covered by <i>The Washington Post</i> , <i>Quanta</i> magazine. “Widespread Partisan Gerrymandering Mostly Cancels Nationally, but Reduces Electoral Com- petition,” with Christopher T. Kenny, Tyler Simko, Shiro Kuriwaki, and Kosuke Imai (2023). <i>Proceedings of the National Academy of Sciences</i> 120:25, e2217322120. “Researchers Need Better Access to U.S. Census Data,” with Tyler Simko and Kosuke Imai (2023). <i>Science</i> 380:6648, 902-903. “Recalibration of Predicted Probabilities Using the “Logit Shift”: Why Does it Work, and When Can it be Expected to Work Well?” with Evan T.R. Rosenman and Santiago Olivella (2023). <i>Political Analysis</i> 31:4, 651-661. “Comment: the Essential Role of Policy Evaluation for the 2020 Census Disclosure Avoidance	

System,” with Christopher T. Kenny, Shiro Kuriwaki, Evan T.R. Rosenman, Tyler Simko, and Kosuke Imai (2023). *Harvard Data Science Review*, Special Issue 2.

Response to boyd and Sarathy (2022).

“Simulated Redistricting Plans for the Analysis and Evaluation of Redistricting in the United States,” with Christopher T. Kenny, Tyler Simko, George Garcia III, Kevin Wang, Melissa Wu, Shiro Kuriwaki, and Kosuke Imai (2022). *Nature: Scientific Data* 9:1, 689.

“The Use of Differential Privacy for Census Data and Its Impact on Redistricting: the Case of the 2020 U.S. Census,” with Christopher T. Kenny, Shiro Kuriwaki, Evan T.R. Rosenman, Tyler Simko, and Kosuke Imai (2021). *Science Advances* 7:41, eabk3283.

Originally a Public Comment to the Census Bureau (May 28, 2021).

Covered by *The Washington Post*, the *Associated Press*, the *San Francisco Chronicle*, *NC Policy Watch*, and others.

“Geodesic Interpolation on Sierpinski Gaskets,” with Caitlin Davis, Laura LeGare, and Luke Rogers (2021). *Journal of Fractal Geometry* 8:2, 117-152.

WORKING PAPERS “Estimating Racial Disparities When Race is Not Observed,” with Jacob Goldin, Daniel E. Ho, and Kosuke Imai (2023).

“Individual and Differential Harm in Redistricting,” with Christopher T. Kenny (2022). Under Review.

“Evaluating Bias and Noise Induced by the U.S. Census Bureau’s Privacy Protection Methods,” with Christopher T. Kenny, Shiro Kuriwaki, Tyler Simko, and Kosuke Imai (2023). Under Review.

“Finding Pareto Efficient Redistricting Plans with Short Bursts” (2023).

OTHER WRITING “Candy Cane Shortages and the Importance of Variation.” International Statistical Institute: *Statisticians React to the News* (December 21, 2021).

“Where Will the Rocket Land?” International Statistical Institute: *Statisticians React to the News* (May 12, 2021).

“Who’s the Most Electable Democrat? It Might be Warren or Buttigieg, Not Biden.” *The Washington Post* (October 23, 2019).

“I-405 Express Toll Lanes: Usage, Benefits, and Equity,” with Shirley Leung, C.J. Robinson, Kiana Roshan Zamir, Vaughn Iverson, and Mark Hallenbeck. Technical report for the Washington State Department of Transportation (2019).

SOFTWARE **redist**: Simulation Methods for Legislative Redistricting

redistmetrics: Redistricting Metrics

birdie: Bayesian Instrumental Regression for Disparity Estimation

easycensus: Quickly Find, Extract, and Marginalize U.S. Census Tables

PL94171: Tabulate P.L. 94-171 Redistricting Data Summary Files

adjustr: Stan Model Adjustments and Sensitivity Analyses using Importance Sampling

causaltbl: Tidy Causal Data Frames and Tools

conformalbayes: Jackknife(+) Predictive Intervals for Bayesian Models

alarmdata: Download, Merge, and Process Redistricting Data

blockpop: Estimate Census Block Populations for 2020

ggredist: Scales, Geometries, and Extensions of ggplot2 for Election Mapping

tinytiger: Lightweight Interface to TIGER/Line Shapefiles

wacolors: Colorblind-Friendly Palettes from Washington State

nbhdmodel: Neighborhood Modeling and Analysis

PRESENTATIONS	Department of Political Science, MIT , Political Methodology Speaker Series, Invited Talk: 2023.	
	Society for Political Methodology , Annual Meeting, Paper: 2023, 2022; Poster: 2022, 2021.	
	Institute for Quantitative Social Science , Harvard University, Applied Statistics Workshop, Paper: 2023, 2022, 2021, 2020.	
	Joint Statistical Meetings , Invited Paper Panel: 2022, 2021.	
	American Association for Public Opinion Research , Annual Meeting, Poster: 2022.	
TEACHING	New York University	
	DS-UA 111: Data Science for Everyone	Spring 2024
	Harvard University	
	STAT 117: Introduction to Biostatistics (Teaching Fellow)	Spring 2021
	STAT 221: Monte Carlo Methods & Other Computational Tools for Statistical Learning (Teaching Fellow)	Fall 2020
	Grinnell College	
	MAT 215: Linear Algebra (Peer Mentor)	Fall 2017 and Spring 2019
	MAT 310: Statistical Modeling (Peer Mentor)	Fall 2018
HONORS AND AWARDS	Grinnell College Math Lab	2018 – 2019
	<i>Best Statistical Software Award</i> , for developing statistical software that makes a significant research contribution; awarded to the redist software package by the Society for Political Methodology, 2022.	
	<i>Certificate of Distinction in Teaching</i> , awarded on the basis of student feedback by the Derek Bok Center for Teaching and Learning, 2021.	

SERVICE	Reviewer: <i>Proceedings of the National Academy of Sciences</i> , <i>Journal of the American Statistical Association</i> , <i>Annals of Applied Statistics</i> , <i>Quarterly Journal of Political Science</i> , <i>Discrete Applied Mathematics</i> , <i>Election Law Journal</i> , <i>Sloan Foundation</i> .	
	Harvard Statistics Graduate Council Organized Ph.D. student retreat and research “lightning talks,” 2020 and 2021.	2020 – 2023
	First-year Ph.D. Student Mentor	2020 – 2023
	Harvard Graduate Students Union – UAW Local 5118 Elected member, Bargaining Committee, 2020–2021 and 2021–2024 contracts. Interim chair, Finance and Benefits Committee, 2020.	2019 – 2021
OTHER EXPERIENCE	American Civil Liberties Union	2021 – 2023
	Expert Witness, <i>Nairne et al. v. Ardoin</i> (U.S. District Court for the Middle District of Louisiana, Case 3:22-cv-00178)	
	Expert Witness, <i>Grace, Inc. et al. v. City of Miami</i> (U.S. District Court for the Southern District of Florida, Case 1:22-cv-24066)	
	Consultant (with Prof. Kosuke Imai), <i>League of Women Voters of Ohio v. Ohio Redistricting Commission</i> (Ohio Supreme Court, Cases 2021–1193 and 2021–1449).	
	Data for Progress Consultant, Midterm election modeling	2022
	University of Washington eScience Institute Data Science for Social Good Fellow	Summer 2019
	Union of Grinnell Student Dining Workers Founder, President (2016–17), and Advisor to the Executive Board (2018–19)	2016 – 2019
	University of Connecticut REU Participant, Department of Mathematics	Summer 2018
	Fred Hutchinson Cancer Research Center Lead Intern, Department of Biostatistics	Summer 2017
	Grinnell College Department of Mathematics Course Grader	2017
	Cray, Inc. (now HPE) Intern, Chapel language testing	Summer 2015