Cory McCartan

Curriculum Vitae

February 2024

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	Expected 2024	
	New York University Center for Data Science Data Science Assistant Professor / Faculty Fellow	2023 - 2024	
Education	 Harvard University 2019 - 2023 Ph.D., Statistics, 2023. Committee: Kosuke Imai (chair), Xiao-Li Meng, Gary King. Dissertation: Computational and Bayesian Methods for Geographic Data in the Social Sciences. A.M., Statistics, 2021. 		
	Grinnell College B.A., Mathematics, with honors.	2015 - 2019	
Peer-Reviewed Publications	"Measuring and Modeling Neighborhoods," with Jacob R. Brown and Kosuke Imai (2024). American Political Science Review, Forthcoming.		
	"Census Officials Must Constructively Engage with Independent Evaluations," with Christo- pher T. Kenny, Tyler Simko, and Kosuke Imai (2024). <i>Proceedings of the National Academy</i> <i>of Sciences</i> , Forthcoming.		
	Letter to the editor re: Jarmin et al. (2023).		
	"Making Differential Privacy Work for Census Data Users," with Tyler Simko and Kosuke Imai (2023). Harvard Data Science Review 5:4.		
	"Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans," with Ko- suke Imai (2023). Annals of Applied Statistics 17:4, 3300-3323.		
	Covered by The Washington Post, Quanta 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). *Political Analysis* 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).
 - "Evaluating Bias and Noise Induced by the U.S. Census Bureau's Privacy Protection Methods," with Christopher T. Kenny, Tyler Simko, Shiro Kuriwaki, and Kosuke Imai (2023). Under Review.
 - "Projective Averages for Summarizing Redistricting Ensembles" (2024). 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 Wash-ington 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 Me	odels	
	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		
	nbhdmode1: Neighborhood Modeling and Analysis		
Presentations	ACM Conference in Equity and Access in Algorithms, Mechanisms, and Optimiza- tion, Annual Meeting, Paper: 2023.		
	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 Work- shop, 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	Saria and	
	DS-OA 111: Data Science for Everyone	Spring 2024	
	Harvard University STAT 117: Introduction to Biostatistics (Teaching Fellow) STAT 221: Monte Carlo Methods & Other Computational	Spring 2021	
	Tools for Statistical Learning (Teaching Fellow)	Fall 2020	
	Grinnell College		
	MAT 215: Linear Algebra (Peer Mentor) MAT 310: Statistical Modeling (Peer Mentor)	Fall 2017 and Spring 2019 Fall 2018	

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2018 - 2019

Grinnell College Math Lab

Honors and Awards	Best Statistical Software Award, for developing statistical software that makes a significant re- search 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: Proceedings of the National Academy of Sciences, Journal of the American Statistical Association, Annals of Applied Statistics, Quarterly Journal of Political Science, Harvard Data Science Review, Discrete Applied Mathematics, Election Law Journal, Sloan Foundation.		
	Harvard Statistics Graduate Council Organized Ph.D. student retreat and research "lightning talks," 2020 and	2020 – 2023 d 2021.	
	First-year Ph.D. Student Mentor	2020 – 2023	
	Harvard Graduate Students Union – UAW Local 5118 2019 – 2019 Elected member, Bargaining Committee, 2020–2021 and 2021–2024 contracts. Interim chair, Finance and Benefits Committee, 2020.		
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	