

Cory McCartan

Curriculum Vitae

October 2022

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| CONTACT INFORMATION | Department of Statistics, Harvard University 1 Oxford St, Ste 400 Cambridge, MA 02138 | (425) 770-9244 cmccartan@fas.harvard.edu corymccartan.com |
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| EDUCATION | Harvard University Ph.D. in Statistics, expected May 2023. Advisor: Kosuke Imai. A.M. in Statistics, March 2021. | 2019 – |
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| | Grinnell College B.A. in Mathematics, with honors. | 2015 – 2019 |
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| PUBLICATIONS | “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. <i>Political Analysis</i> , Forthcoming. |
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“Comment: The Essential Role of Policy Evaluation for the 2020 Census Disclosure Avoidance System” with Christopher T. Kenny, Shiro Kuriwaki, Tyler Simko, Evan T. R. Rosenman, and Kosuke Imai. *Harvard Data Science Review*, Forthcoming.

“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, Tyler Simko, Evan T. R. Rosenman, and Kosuke Imai. *Science Advances* 7:41 (2021).

Covered by the Associated Press, the Washington Post, the San Francisco Chronicle, and others.

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

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| WORKING PAPERS | “Individual and Differential Harm in Redistricting,” with Christopher T. Kenny. |
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“Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans,” with Kosuke Imai. Under Review.

Covered by the Washington Post.

“Measuring and Modeling Neighborhoods,” with Jacob R. Brown and Kosuke Imai. Under Review.

“Widespread Partisan Gerrymandering Mostly Cancels Nationally, but Reduces Electoral Competition,” with Christopher Kenny, Tyler Simko, Shiro Kuriwaki,

and Kosuke Imai. Under Review.

“Simulated redistricting plans for the analysis and evaluation of redistricting plans in the United States,” with Christopher Kenny, Tyler Simko, Shiro Kuriwaki, George Garcia III, Kevin Wang, Melissa Wu, and Kosuke Imai. Under Review.

WORKS IN
PROGRESS

“Estimation of Racial Disparities When Race is Not Observed,” with Robin Fisher, Jacob Goldin, Daniel E. Ho, and Kosuke Imai.

“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. Under Review.

“Two-stage Experiments and Stochastic Intervention,” with Shusei Eshima and Kosuke Imai.

“Regression of the Conditional Median,” with Xiao-Li Meng.

“Algorithm-Assisted Redistricting Methodology” (book), with Kosuke Imai, Christopher Kenny, and Tyler Simko.

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

`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

`conformalbayes`: Jackknife(+) Predictive Intervals for Bayesian Models

`alarmdata`: Download, Merge, and Process Redistricting Data

`blockpop`: Estimate Census Block Populations for 2020

`ggredist`: Scales, Palettes, and Extensions of `ggplot2` for Redistricting

`tinytiger`: Lightweight Interface to TIGER/Line Shapefiles

birdie: Bayesian Instrumental Regression for Disparity Estimation

wacolors: Colorblind-friendly Palettes from Washington State

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| PRESENTATIONS | Joint Statistical Meetings , Invited Paper Panel: 2022, 2021. Society for Political Methodology , Annual Meeting, Paper: 2022; Poster: 2022, 2021. American Association for Public Opinion Research , Annual Meeting, Poster: 2022. Institute for Quantitative Social Science , Harvard University, Applied Statistics Workshop, Paper: 2022, 2021, 2020. |
| TEACHING | Harvard University STAT 117: Introduction to Biostatistics Spring 2021 <i>Awarded a Certificate of Distinction in Teaching</i> STAT 221: Monte Carlo Methods & Other Computational Tools for Statistical Learning Fall 2020 Grinnell College MAT 215: Linear Algebra Fall 2017 and Spring 2019 MAT 310: Statistical Modeling Fall 2018 Grinnell College Math Lab 2018 – 2019 |
| SERVICE | Harvard Statistics Graduate Council 2020 – Organized Ph.D. student retreat and research “lightning talks,” 2020 and 2021. First-year Ph.D. Student Mentor 2020 – Harvard Graduate Students Union – UAW Local 5118 2019 – 2021 Elected member, Bargaining Committee, 2020–2021 and 2021–2024 contracts. Interim chair, Finance and Benefits Committee, 2020. Reviewer: <i>Sloan Foundation</i> . |
| MEMBERSHIP | American Statistical Association, Society for Political Methodology, American Political Science Association, American Association for Public Opinion Research. |
| OTHER EXPERIENCE | Data for Progress 2022 Consultant, Midterm election modeling American Civil Liberties Union of Ohio 2021 – 2022 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). University of Washington eScience Institute Summer 2019 Data Science for Social Good Fellow |

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| Union of Grinnell Student Dining Workers | 2016 – 2019 |
| Founder, President (2016–17), and Advisor to the Executive Board (2018–19) | |
| University of Connecticut | Summer 2018 |
| REU Participant, Department of Mathematics | |
| Fred Hutchinson Cancer Research Center | Summer 2017 |
| Lead Intern, Department of Biostatistics | |
| Grinnell College Department of Mathematics | 2017 |
| Course Grader | |
| Cray, Inc. | Summer 2015 |
| Intern, Chapel language testing | |