Jason Poulos

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Postdoctoral Training

Brigham and Women's Hospital and Harvard Medical School, Boston, MA
Postdoctoral Fellow in Machine Learning, 2023 –

Harvard Medical School, Boston, MA
Postdoctoral Fellow in Data Science, Dept. of Health Care Policy, 2021 – 2023

Statistical and Applied Mathematical Sciences Institute and Duke University, Durham, NC
Postdoctoral Associate in Statistics, 2019 – 2021

Education

University of California, Berkeley
Ph.D., Political Science with a Designated Emphasis in Computational Science and Engineering, 2019 (NSF Graduate Research Fellowship)
M.A., Political Science, 2014

University of Massachusetts, Amherst
B.A., Economics (Phi Beta Kappa)

Selected Articles

Jason Poulos (2024+). "State-Building through Public Land Disposal? An Application of Matrix Completion for Counterfactual Prediction." Accepted with minor revisions, *Statistics and Public Policy*. arXiv:1903.08028.

Jason Poulos, Marcela Horvitz-Lennon, Katya Zelevinsky, Thomas Huijskens, Pooja Tyagi, Jiaju Yan, Jordi Diaz, Tudor Cristea-Platon, and Sharon-Lise Normand (2024+). "Targeted Learning in Observational Studies with Multi-Valued Treatments: An Evaluation of Antipsychotic Drug Treatment Safety." *Statistics in Medicine*. arXiv:2206.15367.

Jason Poulos, Sharon-Lise Normand, Katya Zelevinsky, John Newcomer, Denis Agniel, Haley Abing, and Marcela Horvitz-Lennon (2023). "Antipsychotics and the Risk of Diabetes and Death among Adults with Serious Mental Illnesses." *Psychological Medicine*.

David Rios Insua, Roi Naveiro, Víctor Gallego, and **Jason Poulos** (2023). "Adversarial Machine Learning: Bayesian Perspectives." *Journal of the American Statistical Association*, 115(543): 2195-2206. arXiv:2003.03546.

Zhenhua Wang, Olanrewaju Akande, **Jason Poulos**, and Fan Li (2022). "Are Deep Learning Models Superior for Missing Data Imputation in Surveys? Evidence from an Empirical Comparison." *Survey Methodology*, 48(2): 375-399. arXiv:2103.09316.

Jason Poulos and Shuxi Zeng (2021). "RNN-Based Counterfactual Prediction, with an Application to Homestead Policy and Public Schooling." *Journal of the*

Royal Statistical Society, Series C, 70(4): 1124-1139. arXiv:1712.03553.

Jason Poulos and Rafael Valle (2021). "Character-Based Handwritten Text Transcription with Attention Networks." *Neural Computing & Applications*, 33(16): 10563-10573. arXiv:1712.04046.

Kellie Ottoboni and **Jason Poulos** (2020). "Estimating Population Average Treatment Effects from Experiments with Noncompliance." *Journal of Causal Inference*, 8(1): 108-130. arXiv:1901.02991.

Jason Poulos (2019). "Land Lotteries, Long-term Wealth, and Political Selection." *Public Choice*, 178(1): 217-230.

Jason Poulos and Rafael Valle (2018). "Missing Data Imputation for Supervised Learning." *Applied Artificial Intelligence* 32(2): 186-196. arXiv:1610.09075.

🎓 Full list of articles on Google Scholar.

Manuscripts Under Review

"Revisiting Diabetes Risk of Olanzapine versus Aripiprazole for Serious Mental Illness Care" (with Marcela Horvitz-Lennon, Denis Agniel, Sharon-Lise Normand, John Newcomer, Katya Zelevinsky, and Jeannette Tsuei). Revise & resubmit, *BJPsych Open*.

Professional Service

Book Reviewer: Springer Mathematics

Conference Reviewer: Artificial Intelligence and Statistics (AISTATS; 2023, 2024); Machine Learning for Health (ML4H; 2021, 2022, 2023); Neural Information Processing Systems (NeurIPS): Ethics Review (2023), Workshop on Machine Learning and the Physical Sciences (2019, 2020); Uncertainty in Artificial Intelligence (UAI; 2021, 2024)

Journal Reviewer: (> 1 papers) *Alexandria Engineering Journal*; *Applied Artificial Intelligence* (3); *Applied Sciences* (2); *Applied Stochastic Models in Business and Industry*; *Distributed and Parallel Databases*; *Economics & Politics*; *European Journal of Operational Research*; *Frontiers in Big Data – Data Mining and Management* (2); *GigaScience*; *Journal of Applied Econometrics*; *Journal of the Royal Statistical Society: Series C*; *PLOS ONE*; *PLOS Neglected Tropical Diseases*; *Sensors*; *Statistical Methods & Applications*; *Statistical Papers*; *Statistics and Public Policy*

Invited Presentations

Summer School on Modern Techniques in Survey Sampling, University of Ottawa, July 2022

Department of Mathematics, Université du Québec à Montréal, February 2022

Statistical Methods for Computational Advertising, Banff International Research Station, October 2021

Conference Presentations

Causal Data Science Meeting (CDSM; 2021, 2022)

RAND Center for Causal Inference Symposium (2022)

Joint Statistical Meetings (JSM; 2021, 2022)

Political Institutions and Political Economy Collaborative, Bedrosian Center, University of Southern California (2021, 2022)

Society for Political Methodology (PolMeth; 2020, 2021; Europe, 2021, 2022; Asia, 2022)

Eastern North American Region International Biometric Society (ENAR; 2022)

Online Causal Inference Seminar (OCIS; 2021†)

Big Data Meets Survey Science (BigSurv20; 2020)

Data Science, Statistics & Visualization (DSSV; 2020)

American Political Science Association (APSA; 2014*, 2015, 2018‡)

Midwest Political Science Association (MPSA; 2018)

**poster*; †*discussant*; ‡*paper & discussant*

Grants and Fellowships

NSF Frontera Startup Allocation: "RNN-Based Counterfactual Prediction on High-Dimensional Longitudinal Health Data" (SES20001), 2020-2021

NSF XSEDE Startup Allocation: "RNN-Based Counterfactual Time-Series Prediction" (SES180010), 2018-2019, 2020-2021 ($2,172)

Berkeley Empirical Legal Studies Graduate Fellowship, University of California, Berkeley, School of Law, 2016-2017 ($1,000)

National Science Foundation Graduate Research Fellowship, 2013-2018

Teaching Interests

AI and Health; Causal Inference; Scientific Programming

Teaching & Mentoring

Graduate Student Instructor, Department of Political Science, University of California, Berkeley: Intro. to American Politics (undergrad), spring 2017 and spring 2018; Intro. to Empirical Analysis & Quantitative Methods (undergrad), fall 2018

Research Mentor, Undergraduate Research Apprentice Program (URAP), University of California, Berkeley, fall 2016 and spring 2017

Technical skills

Languages: R; Python; bash; C/C++/UPC; SQL

VCS: git + github; SVN

Frameworks & libraries: TensorFlow; Keras; PyTorch; scikit-learn; Open MPI

Operating systems: Linux (CentOS; Ubuntu)