JAKE A. SOLOFF

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ACADEMIC APPOINTMENTS

Assistant Professor, *University of Michigan* 7/2025 – Present

Postdoctoral Scholar, *The University of Chicago* 6/2022 – 6/2025
Advisors: Rina Foygel Barber and Rebecca Willett

EDUCATION

PhD in Statistics, *University of California, Berkeley* 8/2016 – 5/2022
Advisors: Adityanand Guntuboyina and Michael I. Jordan

ScB in Mathematics, *Brown University* 9/2012 – 5/2016
Advisors: Richard Evan Schwartz and Erik B. Sudderth

PUBLICATIONS

Liang, R., Soloff, J. A., Barber, R. F., & Willett, R. (2025). Assumption-free stability for ranking problems. [preprint]

Rossellini, R., Soloff, J. A., Barber, R. F., Ren, Z., & Willett, R. (2025). Can a calibration metric be both testable and actionable? *To appear in COLT 2025.* [preprint]

Xiang, D., Soloff, J. A., & Fithian, W. (2025). A frequentist local false discovery rate. [preprint]

Liu, S., Panigrahi, S., & Soloff, J. A. (2024). Cross-validation with antithetic Gaussian randomization. [preprint]

Adrian, M., Soloff, J. A., & Willett, R. (2024). Stabilizing black-box model selection with the inflated argmax. [preprint]

Hore, R., Soloff, J. A., Barber, R. F., & Samworth, R. J. (2024). Testing conditional independence under isotonicity. [preprint]

Soloff, J. A., Barber, R. F., & Willett, R. (2024). Building a stable classifier with the inflated argmax. *Advances in Neural Information Processing Systems 37 (NeurIPS 2024).* [preprint] [paper]

Soloff, J. A., Barber, R. F., & Willett, R. (2024). Stability via resampling: statistical problems beyond the real line. [preprint]

Soloff, J. A., Guntuboyina, A., & Sen, B. (2024). Multivariate, heteroscedastic empirical Bayes via nonparametric maximum likelihood. *Journal of the Royal Statistical Society: Series B, 87(1), 1-32.* [paper] [preprint]

Soloff, J. A., Barber, R. F., & Willett, R. (2024). Bagging provides assumption-free stability. *Journal of Machine Learning Research*, 25(131), 1-35. [paper] [preprint]

Soloff, J. A., Xiang, D., & Fithian, W. (2024). The edge of discovery: Controlling the local false discovery rate at the margin. *Annals of Statistics*, 52(2), 580-601. [paper] [preprint]

Bates, S., Jordan, M. I., Sklar, M., & Soloff, J. A. (2023). Incentive-theoretic Bayesian inference for collaborative science. [preprint]

Bates, S., Jordan, M. I., Sklar, M., & Soloff, J. A. (2022). Principal-agent hypothesis testing. [preprint]

Soloff, J. A., Guntuboyina, A., & Jordan, M. I. (2020). Covariance estimation with nonnegative partial correlations. [preprint]

Soloff, J. A., Guntuboyina, A., & Pitman, J. (2019). Distribution-free properties of isotonic regression. *Electronic Journal of Statistics*, 13(2), 3243-3253. [paper] [preprint]

Soloff, J. A., Márquez, R. A., & Friedler, L. M. (2015). Products of geodesic graphs and the geodetic number of products. *Discussiones Mathematicae Graph Theory*, 35(1), 35–42. [paper]

CONFERENCE ABSTRACTS

Shriver, J., Soloff, J. A., & Molen, N. (2014). Delivering the benefits of remotely sensed data and decision support tools to farmers. *American Geophysical Union.* [abstract]

SOFTWARE

`npeb`: Python package for nonparametric empirical Bayes methods.

SCHOLARSHIPS AND AWARDS

Eric Lehmann Citation for outstanding dissertation in theoretical statistics	2022
IMS Hannan Graduate Student Travel Award	2022
Bridgewater Fellowship in Data Science	2020
David Blackwell Fund	2019
Outstanding Graduate Student Instructor Award	2018
First place team, Citadel National Data Open Championship	2017
First place team, Citadel Datathon at UC Berkeley	2017
NSF-GRFP Honorable Mention	2017
Leonard Chung-Wei Cheng Graduate Student Fund in Statistics	2016
Albert A. Bennett Prize for exceptional accomplishment in mathematics major	2016
Jerome L. Stein Memorial Award for undergraduate excellence in applied math	2016
Phi Beta Kappa, elected junior year	2015
Sidney E. Frank Scholarship	2012 – 2016
Dean's Scholarship, Brown summer session	2011

PROFESSIONAL ACTIVITIES

Invited Talks

[12]	University of Michigan Statistics Student Seminar	Oct. 2023
[11]	Wayne State University Data Science Seminar	Oct. 2023
[10]	Indian International Statistical Association (IISA) Conference	Jun. 2023
[9]	Notre Dame Statistics Seminar	May 2023
[8]	Matthew Stephens Lab, University of Chicago	Apr. 2023
[7]	Systems, Information, Learning, Optimization (SILO) Seminar, UW Madison [recording]	Mar. 2023
[6]	University of Bristol Statistics Seminar	Nov. 2022
[5]	12th International Conference on Multiple Comparison Procedures	Aug. 2022
[4]	Discussant, International Seminar on Selective Inference [recording]	Jul. 2022
[3]	International Seminar on Selective Inference [recording]	Mar. 2022
[2]	Fourth Annual Berkeley-Stanford Econometrics Jamboree	Nov. 2021
[1]	Berkeley-Davis joint colloquium	Apr. 2021

Referee Service

Annals of Applied Statistics (AoAS); Annals of Statistics (AoS); Journal of the American Statistical Association (JASA); Journal of Causal Inference (JCI); Journal of the Royal Statistical Society: Series B (JRSS-B); Operations Research (OR)

Workshop Organizer

"Algorithmic stability: mathematical foundations for the modern era" at the American Institute of Mathematics

> Devoted to building a foundational understanding of algorithmic stability and developing rigorous tools for measuring stability that can characterize the behavior of machine learning algorithms.

TEACHING EXPERIENCE

Instructor at University of Michigan 2025 – present

Advanced Statistical Computing

Applied Linear Regression

Graduate student instructor at UC Berkeley 2017 – 2020

Data, Inference, and Decisions, taught by M. I. Jordan and J. Steinhardt.

Theoretical Statistics II (PhD level), taught by M. I. Jordan.

Head GSI, Principles and Techniques of Data Science, taught by F. Perez and J. Gonzalez.

Principles and Techniques of Data Science, taught by D. Nolan and J. Gonzalez.

Assistant instructor at RI Department of Corrections 2016

Introductory Geography, taught by S. Bloch.

Teaching assistant at Brown University 2014 – 2015

Curricular Advising Fellow, Crime and the City, taught by S. Bloch.

Recent Applications of Probability and Statistics (PhD level), taught by S. Geman.

Computational Probability and Statistics, taught by S. Geman.

Crime and the City, taught by S. Bloch.