Dr. Ryan J. Giordano

CONTACT INFORMATION

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA USA — 2019–present
Department of EECS, Computer Science & Artificial Intelligence Lab
Postdoctoral Research Fellow. Advisor: Tamara Broderick

University of California, Berkeley, CA USA — 2013–2019
Ph.D., Statistics. Advisors: M. I. Jordan, J. McAuliffe, T. Broderick
Thesis: *On the Local Sensitivity of M-Estimation: Bayesian and Frequentist Applications*

London School of Economics, London, UK — 2006–2008
MSc., Econometrics.

University of Illinois, Urbana-Champaign, IL, USA — 1997–2002
BA., Mathematics.
BS., Theoretical and Applied Mechanics.

PROFESSIONAL EXPERIENCE

Google Inc., Mountain View, CA USA — 2009–2013
Senior Engineer, Quantitiative Analysis

Macquarie Group, London, UK — 2008
Risk Management Intern

United States Peace Corps, Kokshetau, KZ — 2004–2006
Education Volunteer, successful completion of service

Hewlett-Packard, Boise, ID — 2002–2004
Lifetest Coordinator and Reliability Engineer

HONORS AND AWARDS

Notable Paper Award, Artificial Intelligence and Statistics (AISTATS) (2019)
Travel Award, Artificial Intelligence and Statistics (AISTATS) (2019)
Travel Award, Bayesian Nonparametrics Conference (2019)
Student Paper Award, ASA Section on Bayesian Statistical Science (2018)
Travel Award, International Society for Bayesian Analysis (ISBA) (2018)
Berkeley Institute for Data Science Fellow (2017-19)
Junior Travel Support Grant, International Society for Bayesian Analysis (ISBA) Bayes-Comp (2016)
Spotlight Paper, Neural Information Processing Systems (NeurIPS) (2015)
Outstanding Graduate Student Instructor Award (2015)
Travel Award, Neural Information Processing Systems Workshop on Variational Inference (2014)
Hertz Foundation Graduate Fellowship Finalist (2014)
Google Operating Committee Award (2010)
Advanced-high speaker of Russian in Peace Corps Aptitude Test (2006)
Advanced-mid speaker of Kazakh in Peace Corps Aptitude Test (2006)
Selected as a Peace Corps "Success Story" for a congressional report (2005)
Best Project, Undergraduate Mechanics Research Conference (2002)
Best Presentation, Undergraduate Mechanics Research Conference (2002)
Seely, Sinclair, Stippes, TAM Merit Scholarships (1998-2002)

PREPRINTS	**R. J. Giordano**, M. I. Jordan, & T. Broderick (2019). A Higher-Order Swiss Army Infinitesimal Jackknife. *arXiv:1907.12116 [stat.ME]*. [pdf]

PUBLICATIONS

R. J. Giordano, W. Stephenson, R. Liu, M. I. Jordan, T. Broderick (2019). A Swiss Army Infinitesimal Jackknife. In *The 22nd International Conference on Artificial Intelligence and Statistics.* [pdf]

R. J. Giordano, T. Broderick, & M. I. Jordan (2018). Covariances, Robustness, and Variational Bayes. In *Journal of Machine Learning Research.* [pdf]

J. Regier, K. Fischer, K .Pamnany, A. Noack, J. Revels, M. Lam, S. Howard, **R. J. Giordano**, D. Schlegel, J. McAuliffe, R. Thomas (2019). Cataloging the visible universe through Bayesian inference in Julia at petascale. In *Journal of Parallel and Distributed Computing.* [pdf]

J. Regier, K. Pamnany, K. Fischer, A. Noack, M. Lam, J. Revels, S. Howard, **R. J. Giordano**, D. Schlegel, J. McAuliffe, R. Thomas, Prabhat (2018). Cataloging the Visible Universe through Bayesian Inference at Petascale. In *IEEE International Parallel and Distributed Processing Symposium (IPDPS). IEEE, 2018.* [pdf]

R. J. Giordano, T. Broderick, & M. I. Jordan (2015). Linear Response Methods for Accurate Covariance Estimates from Mean Field Variational Bayes. In *Advances in Neural Information Processing Systems.* [pdf]

R. Winther, **R. J. Giordano**, M. D. Edge, and R. Nielsen (2015). The Mind, the Lab, and the Field: Three Kinds of Populations in Scientific Practice. In *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences.* [pdf]

WORKSHOP
PAPERS

R. J. Giordano ⋆, R. Liu ⋆, M. I. Jordan, T. Broderick (2018). Evaluating Sensitivity to the Stick Breaking Prior in Bayesian Nonparametrics. In *NeurIPs 2018 Bayesian Nonparametrics Workshop.*
⋆ = contributed equally
[pdf]

R. J. Giordano ⋆, R. Liu ⋆, N. Varoquaux⋆, M. I. Jordan, T. Broderick (2017). Measuring Cluster Stability for Bayesian Nonparametrics Using the Linear Bootstrap. In *NeurIPs 2017 Advances in Approximate Bayesian Inference Workshop.*
⋆ = contributed equally
[pdf]

R. J. Giordano, T. Broderick, R. Meager, J. Huggins, M. I. Jordan (2016). Fast Robustness Quantification with Variational Bayes. In *2016 ICML Workshop on #Data4Good: Machine Learning in Social Good Applications.* [pdf]

ACADEMIC TALKS

International Society for Bayesian Analysis Annual Meeting	(upcoming) 2021
A Variational Bayesian Perspective on the EM Algorithm	
BAYESM:O	Nov 2020
Effortless frequentist covariances of posterior expectations in Stan	
Stancon	July 2020
Effortless Frequentist Covariances of Posterior Expectations in Stan	
Splunk Statistics Seminar Series	Oct 2019

A Higher-Order Swiss Army Infinitesimal Jackknife

Google Statistics Journal Club   Sep 2019
On the Local Sensitivity of M-Estimation: Bayesian and Frequentist Applications

Berkeley Statistics Student Seminar Series   April 2019
Sensitivity and Uncertainty in Variational Bayes With an Application to the EM Algorithm

Oxford BNP   June 2019
Evaluating Sensitivity to the Stick Breaking Prior in Bayesian Nonparametrics

Berkeley Institute for Data Science Lunchtime Seminar Series   October 2018
Sensitivity, Uncertainty, and Automatic Differentiation

Berkeley Institute for Data Science Lunchtime Seminar Series   July 2018
Bayesian Inference and Inverse Problems

Stancon   Jan 2018
Automatic Robustness Measures in Stan

Berkeley BSTARS Conference   March 2017
How bad could it be? Worst-case prior sensitivity estimates for Variational Bayes

Berkeley BSTARS Conference   March 2016
Measuring Robustness with Variational Bayes

Berkeley-Stanford Student Joint Colloquium   Nov 2014
Covariance Matrices for Mean Field Variational Bayes

Joint Statistical Meetings   Aug 2013
Estimating Average Proportional Changes in Large, Sparse Data

PROFESSIONAL SERVICE

Student Leadership

University of California, Berkeley, Statistics Department
- Diversity Taskforce Member   2018-2019
- Graduate Student Mentor   2017-2019
- Diversity Committee Member   2017
- Co-organizer of the Gender and Diversity Roundtable   2016-2018
- Student Seminar Committee Member   2014-2017

Universty of Illinois, Urbana-Champaign, Engineering Mechanics Department
- President, Student Society for Experimental Mechanics   2000-2002
- Organizer, Free University Opera for Engineering Students   2001-2002

Journal Reviewing
- Journal of Machine Learning Research

Conference Reviewing
- Advances in Neural Information Processing Systems (NeurIPS)
- International Conference on Machine Learning (ICML)
- International Conference on Artificial Intelligence and Statistics (AISTATS)

Teaching

University of California, Berkeley, USA
- Teaching Assistant, STAT215 Applied Statistics (Graduate-level)   Fall 2014

Kokshetau Elementary School #3, Kokshetau, Kazakhstan
- Elementary school teacher of mathematics and English as a second language   2004-2006

University of Illinois, Urbana-Champaign, USA
- Teaching Assistant, Mechanics of Materials Lab   Fall 1999
- Teaching Assistant, Introduction to Statics   Spring 1999