Ryan Giordano

Current Address:
1515 Grant St.
Berkeley, CA, 94703
805-501-6754 / rgiordano@berkeley.edu

Permanent address:
3919 S. Tamarack Tr.
Crystal Lake, IL, 60012
815-459-7568 / rgiordan@gmail.com

Education:

UC Berkeley   **2013-2019**
PhD in Statistics
  Advised by Michael Jordan, Tamara Broderick, and Jon McAuliffe. Research interests include Bayesian modeling, variational methods, Bayesian robustness, sensitivity analysis, clustering, and causal inference.

London School of Economics (two year program)   **2006-2008**
MSc in Econometrics, Distinction
  Coursework included econometric theory, mathematical economics, computational learning theory, discrete math and complexity, econometric analysis, game theory.

University of Illinois Urbana-Champaign   **1997-2002**
BS Engineering Mechanics *cum laude*, BS Mathematics

  Coursework included real and complex analysis, partial differential equations, computational methods in mechanics, continuum mechanics, dynamics, linear and abstract algebra, differential geometry, and Russian.

Selected Publications:

- Ryan Giordano, Will Stephenson, Runjing Liu, Michael I. Jordan, Tamara Broderick. "A Swiss Army Infinitesimal Jackknife." Artificial Intelligence and Statistics, 2019.
- Ryan Giordano, Tamara Broderick, Michael I. Jordan. "Covariances, Robustness, and Variational Bayes." Journal of Machine Learning Research, 2018.
- Jeffrey Regier, Kiran Pamnany, Keno Fischer, Andreas Noack, Maximilian Lam, Jarrett Revels, Steve Howard, Ryan Giordano, David Schlegel, Jon McAuliffe, Rollin Thomas, Prabhat. "Cataloging the Visible Universe through Bayesian Inference at Petascale." IPDPS, 2018.
- Ryan Giordano, Runjing Liu, Nelle Varoquaux, Michael I. Jordan, Tamara Broderick. "Measuring Cluster Stability for Bayesian Nonparametrics Using the Linear Bootstrap." NIPS AABI workshop, 2017.
- Ryan Giordano, Tamara Broderick, Rachael Meager, Jonathan Huggins, and Michael Jordan. "Fast robustness quantification with variational Bayes." ICML #data4good workshop, 2016.
- Ryan Giordano, Tamara Broderick, and Michael I. Jordan. "Linear response methods for accurate covariance estimates from mean field variational Bayes." NIPS 2015.
- Rasmus Grønfeldt Winther, Ryan Giordano, Michael D. Edge, and Rasmus Nielsen. "The mind, the lab, and the field: Three kinds of populations in scientific practice." Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences, 2015
- Ryan Giordano. "Diagnosing Simpson's Paradox and Rate Statistics Using DANSR." Poster, Young Statisticians Sub-Conference of ISI (YSI), Dublin, 2011

Selected Academic Awards and Honors:
- 12th International Conference on Bayesian Nonparametrics Contributed Talk (2019)
- Artificial Intelligence and Statistics (AISTATS) Notable Paper Award (2019)
- Section on Bayesian Statistical Science Student Paper Award (2018)
- Berkeley Institute for Data Science Fellow (2017-19)
- Neural Information Processing Systems (NeurIPS) spotlight paper (2015)
- Outstanding graduate student instructor award (2015)
- Hertz Foundation Graduate Fellowship Finalist (2014)
- Google Operating Committee award (2010)
- Peace Corps "Success Story" for a congressional report (2008)
- Undergraduate mechanics research conference, best project and presentation (2002)
- Seely, Sinclair, Stippes, TAM Merit Scholarships (1998-2002)

Work Experience:

Google, Mountain View, California
February 2009 – May 2013, Summer 2014
Ads Quality Data Analysis, Senior Engineer
- Tech lead of a team of statisticians measuring and modeling the long-term reaction of users to advertising quality. Lead statistician on a team of engineers modeling, measuring and improving long-term advertiser return on investment. Consultant on projects related to spam detection, advertising quality, and search quality.
- Created innovative statistical techniques to measure average proportional changes between hundreds of millions of noisy observations. Implemented novel pointwise false-discovery rate analysis for multiple hypothesis testing. Developed a method-of-moments approach to Simpson's Paradox in enormous data sets.
- Wrote software to manage and analyze enormous data sets (billions of rows and terabytes of data). Productionised numerous complex statistical analysis for use by non-statisticians. Wrote libraries for sanitizing, joining, and processing server log data in a parallel computing environment.

Macquarie Group, London
June 2008 – December 2008
Risk Management Intern
- Implemented a pricing model for credit default swaps from the literature. Used Bloomberg data to quantify historical movements in credit default swaps in order to quantify prop trading risk.

LSE Financial Markets Group, London
July 2007 – September 2007
Research Assistant
- Wrote software in Gauss to implement a novel maximum likelihood estimator for bivariate binary probit models that allows simultaneous interaction terms to be measured.

United States Peace Corps, Kokshetau, Kazakhstan
June 2004 – June 2006
Education Volunteer
- Designed and executed an experimental program to teach math in English in secondary schools. Created a curriculum, wrote and published a textbook, and taught the program to four groups of middle schoolers.

Hewlett-Packard, Boise, Idaho
Oct 2002 – May 2004
Lifetest Coordinator and Reliability Engineer
.

Select Computer Skills
- Github: https://github.com/rgiordan
- Languages and software: R, Python, Julia, C++, LaTeX, Knitr, Stan, SQL, and more.
- Strong practitioner and proponent of reproducible research.

Foreign Languages
- Russian: Advanced-High in Peace Corps aptitude test
- Kazakh: Advanced-Mid in Peace Corps aptitude test
- Spanish: Intermediate