

*Vitae*

**MICHAEL I. JORDAN**

Department of Electrical Engineering and Computer Sciences  
Department of Statistics  
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**EDUCATION**

PhD in Cognitive Science, 1985  
University of California, San Diego.

MS in Mathematics (Statistics), 1980  
Arizona State University.

BS *magna cum laude* in Psychology, 1978  
Louisiana State University.

**RESEARCH AND TEACHING EXPERIENCE**

Professor – Department of Electrical Engineering and Computer Sciences, Department of Statistics, University of California, Berkeley, 1998 – present.

Professor – Department of Industrial Engineering and Operations Research, University of California, Berkeley, 2017 – present.

Honorary Professor – Peking University, 2018 – present.

Honorary Professor – Tsinghua University, 2019 – present.

Chair – Department of Statistics, University of California, Berkeley, 2015-2017.

Distinguished Visiting Professor – Tsinghua University, 2017 – 2019.

Chaire d'Excellence – Fondation Sciences Mathématiques de Paris, 2012.

Professor – Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 1997 – 1998.

Associate professor with tenure – Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 1994 – 1997.

Associate professor – Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 1992 – 1994.

Assistant professor – Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 1988 – 1992.

Postdoctoral researcher – Department of Computer and Information Science, University of Massachusetts, Amherst, 1986 – 1988.

## **RESEARCH INTERESTS**

Statistical Machine Learning, Bayesian Nonparametric Statistics, Variational Inference, Optimization Theory, Control Theory, Distributed Statistical Inference, Graphical Models, Computational Biology, Statistical Genetics, Human Motor Control, Speech Production and Cognitive Modeling

## **HONORS**

IEEE John von Neumann Medal, 2020.

World's Most Innovative People Award, World Summit on Innovation and Entrepreneurship, 2019.

Plenary Speaker, International Congress of Mathematicians, 2018.

Miller Research Professorship, University of California, Berkeley, 2017-2018.

IJCAI Award for Research Excellence, 2016.

David E. Rumelhart Prize, 2015.

Fellow, International Society for Bayesian Analysis (ISBA), 2014.

Fellow, Society for Industrial and Applied Mathematics (SIAM), 2012.

Elected Member, International Statistical Institute (ISI), 2012.

Member, American Academy of Arts and Sciences (AAAS), 2011.

Member, National Academy of Sciences (NAS), 2010.

Member, National Academy of Engineering (NAE), 2010.

Fellow, Association for Computing Machinery (ACM), 2010.

Fellow, Cognitive Science Society (CSS), 2010.

ACM/AAAI Allen Newell Award, 2009.

Honorary Professor of Hebei University, China, 2009.  
SIAM Activity Group on Optimization Prize, 2008.  
Miller Research Professorship, University of California, Berkeley, 2008.  
Fellow, American Statistical Association (ASA), 2007.  
Fellow, American Association for the Advancement of Science (AAAS), 2006.  
IEEE Neural Networks Pioneer Award, 2006.  
Pehong Chen Distinguished Professorship, University of California, 2006.  
Diane S. McEntyre Award for Excellence in Teaching, 2006.  
Fellow, Institute of Mathematical Statistics (IMS), 2005.  
Fellow, Institute of Electrical and Electronics Engineers (IEEE), 2005.  
Fellow, American Association for Artificial Intelligence (AAAI), 2002.  
MIT Class of 1947 Career Development Award, 1992 – 1995.  
NSF Presidential Young Investigator Award, 1991 – 1996.

## **NAMED LECTURES**

Indira Foundation Lecture, Indian Institute of Technology Bombay, 2019.  
Fields Institute Distinguished Lecture in Statistical Sciences, Toronto, 2019.  
J. Mark Sowers Distinguished Lecture, Virginia Tech, 2019.  
Warren Center Distinguished Lecture, University of Pennsylvania, 2019.  
Taskar Lecture, University of Washington, 2018.  
Milne Lecture, Oregon State University, 2017.  
Challis Lecture, University of Florida, 2017.  
Wilks Memorial Lecture, Princeton University, 2016.  
Jon Postel Lecture, University of California, Los Angeles, 2016.  
Gene Brice Colloquium, Rice University, 2016.  
John von Neumann Lecture, Brown University, 2015.

Coxeter Lecture Series, Fields Institute for Research in Mathematical Sciences, 2015.

Bahadur Memorial Lecture, University of Chicago, 2015.

Harry Nyquist Distinguished Lecture, Yale University, 2013.

Vincent Meyer Colloquium, Israel Institute of Technology, 2012.

Constance van Eeden Colloquium, University of British Columbia, 2012.

Neyman Lecture, Institute of Mathematical Statistics, 2011.

Ernst Ising Lecture, Brown University, 2011.

Dertouzos Lecture, Massachusetts Institute of Technology, 2011.

George A. Bekey Lecture, University of Southern California, 2011.

Thomas E. Noonan Lecture, Georgia Institute of Technology, 2011.

R. L. Anderson Lecture, University of Kentucky, 2011.

S. James Press Endowed Lecture, University of California, Riverside, 2010.

Posner Lecture, Neural Information Processing Systems Annual Conference, 2010.

Morris H. DeGroot Memorial Lecture, Carnegie Mellon University, 2009.

Pao-Lu Hsu Lecture, Beijing University, 2009.

Institute Medallion Lecturer, Institute of Mathematical Statistics, 2004.

Paul Rockwood Memorial Lecture, Institute for Neural Computation, 1996.

## **BEST PAPER AWARDS**

Ten-Year Influential Paper (with A. Ganapathi, H. Kuno, U. Dayal, J. Wiener, A. Fox, and D. Patterson). IEEE International Conference on Data Engineering (ICDE), 2019.

Notable Paper Award (with Ryan Giordano, William Stephenson, Runjing Liu and Tamara Broderick), Artificial Intelligence and Statistics (AISTATS), 2019.

Best Paper Award (with Chi Jin, Zeyuan Allen-Zhu and Sebastien Bubeck), ICML Workshop on Exploration in Reinforcement Learning, 2018.

Most Read Paper in the journal *Optimization Methods and Software* (with Chenxin Ma, et al.), 2017.

SIGIR Test of Time honorable mention (with D. Blei, for “Modeling annotated data” in SIGIR 2003), 2015.

ICML Test of Time award (with F. Bach and G. Lanckriet), for “Multiple kernel learning, conic duality, and the SMO algorithm” in ICML 2004), 2014.

Best Student Paper Award (with P. Wang, K. Laskey and C. Domeniconi), SIAM International Conference on Data Mining (SDM), 2011.

Best Student Paper Award (with J. Duchi and L. Mackey), International Conference on Machine Learning (ICML), 2010.

Best Student Paper Award (with P. Liang), International Conference on Machine Learning (ICML), 2008.

IEEE Signal Processing Society young author award (with X. Nguyen and M. Wainwright), 2007.

Best Student Paper Award (with P. Flaherty and A. Arkin), Neural Information Processing Systems (NIPS), 2005.

Best Paper Award (with X. Nguyen and M. Wainwright), International Conference on Machine Learning (ICML), 2004.

Best Paper Award honorable mention (with F. Bach and G. Lanckriet), International Conference on Machine Learning (ICML), 2004.

Best Student Paper award (with D. Blei, T. Griffiths and J. Tenenbaum), Neural Information Processing Systems (NIPS), 2003.

Best paper award nominee (with B. Sinopoli, M. Franceschetti, L. Schenato, K. Poolla, and S. Sastry), 42nd IEEE Conference on Decision and Control (CDC), 2003.

Best Student Paper Award runner-up (with E. Xing and S. Russell), Uncertainty in Artificial Intelligence (UAI), 2003.

Best Student Paper Award (with T. Jaakkola), Uncertainty in Artificial Intelligence Conference (UAI), 1996.

Best Paper Award (with R. Jacobs), American Control Conference (ACC), 1991.

## **EDITORIAL BOARDS**

*Foundations and Trends in Machine Learning* (Editor-in-Chief, 2007-)

*SIAM Journal on the Mathematics of Data Science* (Founding Section Editor, 2018-)

*Bayesian Analysis* (Editor, 2006-2011)

*Stochastic Analysis and Applications* (Honorary Editorial Board, 2010-)  
*Information and Inference* (Associate Editor, 2011-)  
*Knowledge and Information Systems* (Honorary Editor-in-Chief, 2016-)  
*IEEE Signal Processing Magazine* (Editorial Board, 2010-2014)  
*Statistics and Computing* (Advisory Board, 2013-)  
*Foundations and Trends in Optimization* (Editorial Board, 2013-)  
*IEEE Signal Processing Magazine* (Guest Editor, Special Issue on Graphical Models, 2010)  
*Journal of the American Statistical Association* (Associate Editor, 1998-2001)  
*Journal of Machine Learning Research* (Action Editor, 2000-2009)  
*Neural Computation* (Associate Editor, 1989-2014)  
*Statistical Analysis and Data Mining* (Associate Editor, 2006-2009)  
*Machine Learning* (Action Editor, 1993-1999)  
*Journal of Artificial Intelligence Research* (Editorial Board, 1998-2001)  
*International Journal of Machine Learning and Cybernetics* (Advisory Board, 2010-)  
*Cognition* (Editorial Board, 1992-1998)  
*International Journal of Neural Systems* (Editorial Advisory Board, 2002-2010)  
*Neural Networks* (Editorial Board, 1994-2008)  
*Neurocomputing* (Editorial Board, 1994-2003)  
*Neural Processing Letters* (Editorial Board, 1994-2007)

## **OTHER PROFESSIONAL ACTIVITIES**

President, International Society for Bayesian Analysis (ISBA), 2010-2011  
ACM Turing Award Committee, 2011-2014  
Membership Committee, American Academy of Arts and Sciences (AAAS), 2011-2017  
IMS Committee on Special Lectures, 2011-2014  
Series Editor, Springer-Verlag Series on Statistics and Information Sciences

Series Editor, MIT Press Series on Adaptive Computation and Machine Learning

Executive Committee, International Society for Bayesian Analysis (ISBA), 2009-2012

Prize Committee, International Society for Bayesian Analysis (ISBA), 2009-2010

Advisory Board, Bayesian Analysis (Journal of the International Society for Bayesian Analysis)

Scientific Advisory Board, ARC Centre of Excellence for Mathematical and Statistical Frontiers of Big Data, Big Models, New Insights, 2014-

Scientific Advisory Board, Institute of Mathematical Statistics, Tokyo, Japan, 2008-

External Advisory Board, Statistics and Operational Research Doctoral Training Centre, Lancaster University, 2010-

Founding Board Member of the International Machine Learning Society (IMLS), 2001-2009

Member of the Neural Information Processing Systems (NIPS) Foundation Board, 1998-

Session Organizer, IMS Annual Meeting, 2010

Chair, MIT Press Editorial Advisory Board, 1994-1998

Advisory Council for the International Association for the Study of Attention and Performance, 1994-2002

Program Chair, NIPS (Neural Information Processing Systems Conference), 1996

General Chair, NIPS (Neural Information Processing Systems Conference), 1997

Advisory Editor, MIT Encyclopedia of the Cognitive Sciences

Director – NATO ASI Summer School on Learning in Graphical Models, Erice, Italy, September, 1996

## **GRADUATE AND POSTDOCTORAL SUPERVISION**

### *Graduate Student Supervision*

Eric Loeb, 1989–1995; Zoubin Ghahramani, 1990–1995; John Houde, 1990–1997; Wey Fun, 1991–1995; Philip Sabes, 1991–1996; Tommi Jaakkola, 1992–1997; Emanuel Todorov, 1992–1998; Marina Meila, 1992–1999; Andrew Ng, 1997–2003; David Blei, 1999–2004; Alice Zheng, 1999–2005; Eric Xing, 2000–2004; Jon McAuliffe, 2000–2005; Francis Bach, 2000–2005; Gert Lanckriet, 2000–2005; Brian Vogel,

2001–2005; Patrick Flaherty, 2001–2007; XuanLong Nguyen, 2001–2007; Barbara Engelhardt, 2001–2007; Romain Thibaux, 2003–2008; Simon Lacoste-Julien, 2003–2009; Guillaume Obozinski, 2003–2009; Sarah Moussa, 2003–2005; Ben Blum, 2004–2008; Alex Simma, 2004–2010; Peter Bodik, 2004–2010; Junming Yin, 2005–2010; Alexandre Bouchard-Côté, 2005–2010; Sriram Sankararaman, 2005–2010; Percy Liang, 2005–2011; Chris Hundt, 2006–2008; Alex Shyr, 2006–2011; Kurt Miller, 2006–2011; Daniel Ting, 2006–2011; Ariel Kleiner, 2006–2012; Fabian Wauthier, 2007–2013; Lester Mackey, 2007–2012; John Duchi, 2008–2014; Tamara Broderick, 2009–2014; Teodor Moldovan, 2009–2014; Andre Wibisono, 2010–2016; Yuchen Zhang, 2011–2016; Ashia Wilson, 2012–2018; Virginia Smith, 2012–2017; Xinghao Pan, 2012–2017; Nicholas Boyd, 2012–2018; Ahmed El Alaoui, 2013–2018; Robert Nishihara, 2013–2019; Philipp Moritz, 2013–2019; Chi Jin, 2013–2019; Ryan Giordano, 2014–2019; Max Rabinovich, 2014–2019; Xiang Cheng, 2014–; Horia Mania, 2014–; Lihua Lei, 2015–2019; Jianbo Chen, 2015–2019; Chelsea Zhang, 2015–; Max Simchowitz, 2015–; Mitchell Stern, 2015–; Nilesch Tripuraneni, 2016–; Esther Rolf, 2016–; Aldo Pacchiano, 2016–; Romain Lopez, 2016–; Chiao-Yu Yang, 2016–; Joe Borja, 2016–2019; Lydia Liu, 2017–; Karl Krauth, 2017–; Melih Elibol, 2017–; Tijana Zrnic, 2017–; Serena Wang, 2018–; Akosua Busia, 2018–; Wenshuo Guo, 2018–; Clara Wong-Fannjiang, 2018–

#### *Postdoctoral Supervision*

Robert Jacobs, 1990–1992; Marios Mantakas, 1990–1991; Yoshua Bengio, 1991–1992; Lei Xu, 1992–1993; David Cohn, 1992–1995; Daniel Wolpert, 1992–1995; Satinder Singh, 1993–1995; Lawrence Saul, 1994–1996; Thomas Hofmann, 1997–1999; Yair Weiss, 1998–2001; Chiranjib Bhattacharyya, 2000–2002; Sekhar Tatikonda, 2000–2002; Michal Rosen-Zvi, 2002–2003; Martin Wainwright, 2002–2004; Yee-Whye Teh, 2003–2005; Matthias Seeger, 2003–2005; Ben Taskar, 2004–2006; Fei Sha, 2006–2007; Zhihua Zhang, 2006–2008; Erik Sudderth, 2006–2009; Gad Kimmel, 2006–2008; Charles Sutton, 2007–2009; Emily Fox, 2010–2011; Justin Ma, 2010–2012; Ameet Talwalkar, 2010–2014; Purnamrita Sarkar, 2010–2014; John Paisley, 2011–2013; Jennifer Tom, 2011–2013; Venkat Chandrasekaran, 2011–2012; Stefanie Jegelka, 2012–2014; Joseph Gonzalez, 2012–2015; Xi Chen, 2013–2014; Elaine Angelino, 2014–2017; Yun Yang, 2014–2016; Jason Lee, 2015–2016; Aaditya Ramdas, 2015–2018; Jeff Regier, 2016–2019; Sarah Brown, 2017–2018; Nicolas Flammarion, 2017–2019; Nhat Ho, 2017–; Yi-An Ma, 2017–2019; Yan Shuo Tan, 2018–; Michael Muehlebach, 2018–; Jelena Diakonikolas, 2018–2019; Elynn Chen, 2019–; Junchi Li, 2019–; Feng Ruan, 2019–;

## **JOURNAL ARTICLES**

El Alaoui, A., Krzakala, F., & Jordan, M. I. (to appear). Fundamental limits of detection in the spiked Wigner model. *Annals of Statistics*.



- Yang, P., Chen, J., Hsieh, C.-J., Wang, J.-L., & Jordan, M. I. (to appear). Greedy Attack and Gumbel Attack: Generating adversarial examples for discrete data. *Journal of Machine Learning Research*.
- Dwivedi, R., Ho, N., Khamaru, K., Wainwright, M., Jordan, M. I., & Yu, B. (to appear). Singularity, misspecification, and convergence rate of the EM algorithm. *Annals of Statistics*.
- Ma, Y.-A., Chen, Y., Jin, C., Flammarion, N., & Jordan, M. I. (2019). Sampling can be faster than optimization. *Proceedings of the National Academy of Sciences*, <https://doi.org/10.1073/pnas.1820003116>.
- Jordan, M. I. (2019). Artificial intelligence: The revolution hasn't happened yet. *Harvard Data Science Review*, *1*, 10.1162/99608f92.f06c6e61.
- Lee, J., Panageas, I., Piliouras, G., Simchowitz, M., Jordan, M. I., & Recht, B. (2019). First-order methods almost always avoid strict saddle-points. *Mathematical Programming, Series B*, [doi.org/10.1007/s10107-019-01374-3](https://doi.org/10.1007/s10107-019-01374-3).
- Ramdas, A., Barber, R., Wainwright, M., & Jordan, M. I. (2019). A unified treatment of multiple testing with prior knowledge using the p-filter. *Annals of Statistics*, *47*, 2790-2821.
- El Alaoui, A., A. Ramdas, Krzakala, F., Zdeborova, L., & Jordan, M. I. (2019). Decoding from pooled data: Sharp information-theoretic bounds. *SIAM Journal on Mathematics of Data Science*, *1*, 161-188.
- Rabinovich, M., Ramdas, A., Jordan, M. I., & Wainwright, M. (to appear). Function-specific mixing times and concentration away from equilibrium. *Bayesian Analysis*.
- Rabinovich, M., Ramdas, A., Wainwright, M., & Jordan, M. I. (to appear). Optimal rates and tradeoffs in multiple testing. *Statistica Sinica*.
- Ramdas, A., Chen, J., Wainwright, M., & Jordan, M. I. (2019). A sequential algorithm for false discovery rate control on directed acyclic graphs. *Biometrika*, *106*, 69-86.
- Long, M., Cao, Y., Cao, Z., Wang, J., & Jordan, M. I. (to appear). Transferable representation learning with deep adaptation networks. *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
- El Alaoui, A., Ramdas, A., Krzakala, F., Zdeborova, L., & Jordan, M. I. (2019). Decoding from pooled data: Phase transitions of message passing. *IEEE Transactions on Information Theory*, *65*, 572-585.
- Lopez, R., Regier, J., Cole, M., Jordan, M. I., & Yosef, N. (2018). Bayesian inference for a generative model of transcriptome profiles from single-cell RNA sequencing. *Nature Methods*, *15*, 1053-1058.

- Giordano, R., Broderick, T., & Jordan, M. I. (2018). Covariances, robustness, and variational Bayes. *Journal of Machine Learning Research*, *19*, 1-49.
- Jordan, M. I., Lee, J., & Yang, Y. (2018). Communication-efficient statistical inference. *Journal of the American Statistical Association*, <https://doi.org/10.1080/01621459.2018.1429274>.
- Smith, V., Forte, S., Ma, C., Takac, M., Jordan, M. I., and Jaggi, M. (2018). CoCoA: A general framework for communication-efficient distributed optimization. *Journal of Machine Learning Research*, *18*, 1-49.
- Jordan, M. I. (2018). Dynamical, symplectic and stochastic perspectives on gradient-based optimization. *Proceedings of the International Congress of Mathematicians*, *1*, 551-558.
- Boyd, N., Hastie, T., Boyd, S., Recht, B., & Jordan, M. I. (2018). Saturating splines and feature selection. *Journal of Machine Learning Research*, *18*, 1-32.
- Broderick, T., Wilson, A., & Jordan, M. I. (2018). Posteriors, conjugacy, and exponential families for completely random measures. *Bernoulli*, *24*, 3181-3221.
- Mania, H., Ramdas, A., Wainwright, M., Jordan, M. I., & Recht, B. (2018). On kernel methods for covariates that are rankings. *Electronic Journal of Statistics*. *12*, 2537-2577.
- Ghanta, S., Dy, J., Niu, D., & Jordan, M. I. (2018). Latent marked Poisson process with applications to object segmentation. *Bayesian Analysis*, *13*, 85-113.
- Mania, H., Pan, X., Papailiopoulos, D., Recht, B., Ramchandran, K., & Jordan, M. I. (2017). Perturbed iterate analysis for asynchronous stochastic optimization. *SIAM Journal on Optimization*, *27*, 2202-2229.
- Duchi, J., Jordan, M. I. & Wainwright, M. (2017). Minimax optimal procedures for locally private estimation. *Journal of the American Statistical Association*, *113*, 182-201.
- Ma, C., Konečný, J., Jaggi, M., Smith, V., Jordan, M. I., Richtárik, P. & Takáč, M. (2017). Distributed optimization with arbitrary local solvers. *Optimization Methods and Software*, *4*, 813-848.
- Ghanta, S., Jordan, M. I., Kose, K., Brooks, D., Rajadhyaksha, M., & Dy, J. (2017). A marked Poisson process driven latent shape model for 3D segmentation of reflectance confocal microscopy image stacks of human skin. *IEEE Transactions on Image Processing*, *26*, 172-184.
- Zhang, Y., Wainwright, M., & Jordan, M. I. (2017). Optimal prediction for sparse linear models? Lower bounds for coordinate-separable M-estimators. *Electronic Journal of Statistics*, *11*, 752-799.

- Wibisono, A., Wilson, A., & Jordan, M. I. (2016). A variational perspective on accelerated methods in optimization. *Proceedings of the National Academy of Sciences*, *133*, E7351-E7358.
- Yang, Y., Wainwright, M. & Jordan, M. I. (2016). On the computational complexity of high-dimensional Bayesian variable selection. *Annals of Statistics*, *44*, 2497-2532.
- Fang, E., Li, M-D., Jordan, M. I., & Liu, H. (2016). Mining massive amounts of genomic data: A semiparametric topic modeling approach. *Journal of the American Statistical Association*, 10.1080/01621459.2016.1256812.
- Zhang, Y., Chen, X., Jordan, M. I., & Zhou, D. (2016). Spectral methods meet EM: A provably optimal algorithm for crowdsourcing. *Journal of Machine Learning Research*, *102*, 1-44.
- Jordan, M. I. & Mitchell, T. (2015). Machine learning: Trends, perspectives and prospects. *Science*, *349*, 255-260.
- Duchi, J., Jordan, M. I., Wainwright, M., & Wibisono, A. (2015). Optimal rates for zero-order optimization: the power of two function evaluations. *IEEE Transactions on Information Theory*, *61*, 2788-2806.
- Talwalkar, A. Mackey, L., & Jordan, M. I. (2015). Distributed matrix completion and robust factorization. *Journal of Machine Learning Research*, *16*, 913-960.
- Paisley, J., Wang, C., Blei, D., & Jordan, M. I. (2015). Nested hierarchical Dirichlet processes. *Transactions on Pattern Analysis and Machine Intelligence*, *37*, 256-270.
- Broderick, T., Mackey, L., Paisley, J., & Jordan, M. I. (2015). Combinatorial clustering and the beta negative binomial process. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *37*, 290-306.
- Mackey, L., Jordan, M. I., Chen, R. Y., Farrell, B. & Tropp, J. A. (2014). Matrix concentration inequalities via the method of exchangeable pairs. *Annals of Probability*, *42*, 906-945.
- Kleiner, A., Talwalkar, A., Sarkar, P., & Jordan, M. I. (2014). A scalable bootstrap for massive data. *Journal of the Royal Statistical Society, Series B*, *76*, 795-816.
- Fox, E. B., Hughes, M., Sudderth, E., & Jordan, M. I. (2014). Joint modeling of multiple time series via the beta process with application to motion capture segmentation. *Annals of Applied Statistics*, *8*, 1281-1313.
- Sarkar, P., Chakrabarti, D. & Jordan, M. I. (2014). Nonparametric link prediction in large scale dynamic networks. *Electronic Journal of Statistics*, *8*, 2022-2065.

- Duchi, J., Jordan, M. I. & Wainwright, M. (2014). Privacy aware learning. *Journal of the ACM*, *61*, <http://dx.doi.org/10.1145/2666468>.
- Lindsten, F., Jordan, M. I., & Schön, T. (2014). Particle Gibbs with ancestor sampling. *Journal of Machine Learning Research*, *15*, 2145-2184.
- Talwalkar, A, Liptrap, J., Newcomb, J., Hartl, C., Terhorst, J., Curtis, K., Bresler, M., Song, Y., Jordan, M. I., & D. Patterson. (2014). SMASH: A benchmarking toolkit for variant calling. *Bioinformatics*, DOI:10.1093/bioinformatics/btu345.
- Niu, D., Dy, J., & Jordan, M. I. (2014). Iterative discovery of multiple alternative clustering views. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *36*, 1340-1353.
- Zhang, Z., Wang, S., Liu, D., & Jordan, M. I. (2014). Matrix-variate Dirichlet process priors with applications. *Bayesian Analysis*, *9*, 259-286.
- Jordan, M. I. (2013). On statistics, computation and scalability. *Bernoulli*, *19*, 1378-1390.
- Bouchard-Côté, A. & Jordan, M. I. (2013). Evolutionary inference via the Poisson indel process. *Proceedings of the National Academy of Sciences*, *110*, 1160-1166.
- Chandrasekaran, V. & Jordan, M. I. (2013). Computational and statistical tradeoffs via convex relaxation. *Proceedings of the National Academy of Sciences*, *110*, E1181-E1190.
- Broderick, T., Jordan, M. I., & Pitman, J. (2013). Cluster and feature modeling from combinatorial stochastic processes. *Statistical Science*, *28*, 289-312.
- Liang, P., Jordan, M. I., & Klein, D. (2013). Learning dependency-based compositional semantics. *Computational Linguistics*, *39*, 389-446.
- Duchi, J., Mackey, L., & Jordan, M. I. (2013). The asymptotics of ranking algorithms. *Annals of Statistics*, *41*, 2292-2323.
- Broderick, T., Pitman, J., & Jordan, M. I. (2013). Feature allocations, probability functions, and paintboxes. *Bayesian Analysis*, *8*, 801-836.
- Lindsten, F., Jordan, M. I., & Schön, T. (2013). Bayesian semiparametric Wiener system identification. *Automatica*, *49*, 2053-2063.
- Yan, D., Huang, L., & Jordan, M. I. (2013). Cluster forests. *Computational Statistics and Data Analysis*, *66*, 178-192.

- Muratore, K., Engelhardt, B., Srouji, J., Jordan, M. I., Brenner, S., & Kirsch, J. (2013). Molecular function prediction for a family exhibiting evolutionary tendencies towards substrate specificity swapping: Recurrence of tyrosine aminotransferase activity in the  $I\alpha$  subfamily. *Proteins: Structure, Function, and Bioinformatics*, DOI:10.1002/prot.24318.
- Duchi, J., Agarwal, A., Johansson, M., & Jordan, M. I. (2012). Ergodic mirror descent. *SIAM Journal on Optimization*, *22*, 1549-1578.
- Bouchard-Côté, A., Sankararaman, S., & Jordan, M. I. (2012). Phylogenetic inference via sequential Monte Carlo. *Systematic Biology*, *61*, 579-593, 2012.
- Zhang, Z., Wang, S., Liu, D., & Jordan, M. I. (2012). EP-GIG priors and applications in Bayesian sparse learning. *Journal of Machine Learning Research*, *13*, 2031-2061.
- Broderick, T., Jordan, M. I., & Pitman, J. (2012). Beta processes, stick-breaking, and power laws. *Bayesian Analysis*, *7*, 439-476.
- Zhang, Z., Liu, D., Dai, G., & Jordan, M. I. (2012). Coherence functions with applications in large-margin classification methods. *Journal of Machine Learning Research*, *13*, 2705-2734.
- Obozinski, G., Wainwright, M. & Jordan, M. I. (2011). Support union recovery in high-dimensional multivariate regression. *Annals of Statistics*, *39*, 1-47.
- Fox, E. B., Sudderth, E., Jordan, M. I., & Willsky, A. S. (2011). A sticky HDP-HMM with application to speaker diarization. *Annals of Applied Statistics*, *5*, 1020-1056.
- Engelhardt, B., Jordan, M. I., Srouji, J., & Brenner, S. (2011). Genome-scale phylogenetic function annotation of large and diverse protein families. *Genome Research*, *21*, 1969-1980.
- Sutton, C. A. & Jordan, M. I. (2011). Bayesian inference for queueing networks and modeling of Internet services. *Annals of Applied Statistics*, *5*, 254-282.
- Fox, E. B., Sudderth, E., Jordan, M. I., & Willsky, A. S. (2011). Bayesian nonparametric inference of switching dynamic linear models. *IEEE Transactions on Signal Processing*, *59*, 1569-1585.
- Wauthier, F., Jordan, M. I., & Jojic, N. (2011). Nonparametric combinatorial sequence models. *Journal of Computational Biology*, *18*, 1649-1660.
- Carin, L., Baraniuk, R. G., Cevher, V., Dunson, D., Jordan, M. I., Sapiro, G., & Wakin, M. B. (2011). Learning low-dimensional signal models. *IEEE Signal Processing Magazine*, *28*, 39-51.
- Zhang, Z., Dai, G., & Jordan, M. I. (2011). Bayesian generalized kernel mixed models. *Journal of Machine Learning Research*, *12*, 111-139.

- Blei, D., Griffiths, T., & Jordan, M. I. (2010). The nested Chinese restaurant process and Bayesian inference of topic hierarchies. *Journal of the ACM*, *57*, 1-30.
- Blum, B., Jordan, M. I., & Baker, D. (2010). Feature space resampling for protein conformational search. *Proteins: Structure, Function, and Bioinformatics*, *78*, 1583-1593.
- Nguyen, X., Wainwright, M., & Jordan, M. I. (2010). Estimating divergence functionals and the likelihood ratio by convex risk minimization. *IEEE Transactions on Information Theory*, *56*, 5847-5861.
- Ting, D., Wang, G., Shapovalov, M., Mitra, R., Jordan, M. I., & Dunbrack, R. (2010). Neighbor-dependent Ramachandran probability distributions of amino acids developed from a hierarchical Dirichlet process model. *PLoS Computational Biology*, *6*, e1000763.
- Sankararaman, S., Sha, F., Kirsch, J., Jordan, M. I., & Sjolander, K. (2010). Active site prediction using evolutionary and structural information. *Bioinformatics*, *26*, 617-624.
- Obozinski, G., Taskar, B. & Jordan, M. I. (2010). Joint covariate selection and joint subspace selection for multiple classification problems. *Statistics and Computing*, *20*, 231-252.
- Fox, E. B., Sudderth, E., Jordan, M. I., & Willsky, A. S. (2010). Bayesian nonparametric methods for learning Markov switching processes. *IEEE Signal Processing Magazine*, *27*, 43-54.
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