

Vitae

MICHAEL I. JORDAN

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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 Science, Department of Statistics, University of California, Berkeley, 1998 – present.

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

Graphical models

Variational inference methods

Computational biology, statistical genetics

Human motor control, speech production, cognitive modeling

Distributed statistical inference

Spectral methods

Convex optimization

Adaptive signal processing

HONORS

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

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

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

- 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-)
- Bayesian Analysis* (Editor, 2006-2011)
- Stochastic Analysis and Applications* (Honorary Editorial Board, 2010-)
- Information and Inference* (Associate Editor, 2011-)
- IEEE Signal Processing Magazine* (Editorial Board, 2010-)

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-)

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

IMS Committee on Special Lectures, 2011-2014

Membership Committee, American Academy of Arts and Sciences (AAAS), 2011-

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, 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-Cote, 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–; Fabian Wauthier, 2007–; Lester Mackey, 2007–; John Duchi, 2008–; Tamara Broderick, 2009–; Teodor Moldovan, 2009–; Andre Wibisono, 2010–

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–; Ameet Talwalkar, 2010–; Purnamrita Sarkar, 2010–; John Paisley, 2011–; Jennifer Tom, 2011–; Venkat Chandrasekaran, 2011–

JOURNAL ARTICLES

- Broderick, T., Jordan, M. I., & Pitman, J. (to appear). Beta processes, stick-breaking, and power laws. *Bayesian Analysis*.
- Bouchard, A., Sankararaman, S., & Jordan, M. I. (2012). Phylogenetic inference via sequential Monte Carlo. *Systematic Biology*, doi:10.1093/sysbio/syr131.
- 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*, doi/10.1101/gr.104687.109.
- 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, 1111-1139.
- 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.
- Ding, C., Li, T., & Jordan, M. I. (2010). Convex and semi-nonnegative matrix factorizations. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 32, 45-55.
- Zhang, Z., Dai, G., Xu, C., & Jordan, M. I., (2010). Regularized discriminant analysis, ridge regression and beyond. *Journal of Machine Learning Research*, 11, 2141-2170.
- Sankararaman, S., Obozinski, G., Jordan, M. I., & Halperin, E. (2009). Genomic privacy and the limits of individual detection in a pool. *Nature Genetics*, 41, 965-967.
- Nguyen, X., Wainwright, M., & Jordan, M. I. (2009). On surrogate loss functions and f -divergences. *Annals of Statistics*, 37, 876-904.
- Fukumizu, K., Bach, F. R., & Jordan, M. I. (2009). Kernel dimension reduction in regression. *Annals of Statistics*, 37, 1871-1905.
- Yin, J., Jordan, M. I., & Song, Y. (2009). Joint estimation of gene conversion rates and mean conversion tract lengths from population SNP data. *Bioinformatics*, 25, i231-i239.

- Sankararaman, S., Kimmel, G., Halperin, E., & Jordan, M. I. (2008). On the inference of ancestries in admixed populations. *Genome Research*, *18*, 668-675.
- Wainwright, M. & Jordan, M. I. (2008). Graphical models, exponential families and variational inference. *Foundations and Trends in Machine Learning*, *1*, 1-305.
- Kimmel, G., Karp, R., Jordan, M. I., & Halperin, E. (2008). Association mapping and significance estimation via the coalescent. *American Journal of Human Genetics*, *83*, 675-683.
- Zhang, Z., & Jordan, M. I. (2008). Multiway spectral clustering: A margin-based perspective. *Statistical Science*, *23*, 383-403.
- Flaherty, P., Radhakrishnan, M. A., Dinh, T., Jordan, M. I. & Arkin, A. P. (2008). A dual receptor cross-talk model of G protein-coupled signal transduction. *PLoS Computational Biology*, *4*, e1000185.
- Nguyen, X., Wainwright, M., & Jordan, M. I. (2008). On optimal quantization rules for some sequential decision problems. *IEEE Transactions on Information Theory*, *54*, 3285-3295.
- Obozinski, G., Grant, C. E., Lanckriet, G. R. G., Jordan, M. I., & Noble, W. S. (2008). Consistent probabilistic outputs for protein function prediction. *Genome Biology*, *9*, S7.
- Pena-Castillo, L., Tasan, M., Myers, C., Lee, H., Joshi, T., Zhang, C., Guan, Y., Leone, M., Paganini, A., Kim, W., Krumpelman, C., Tian, W., Obozinski, G., Qi, Y., Mostafavi, S., Lin, G., Berriz, G., Gibbons, F., Lanckriet, G., Qiu, J., Grant, C., Barutcuoglu, Z., Hill, D., Warde-Farely, D., Grouios, C., Ray, D., Blake, J., Deng, M., Jordan, M., Noble, W., Morris, Q., Klein-Seetharaman, J., Bar-Joseph, Z., Chen, T., Sun, F., Troyanskaya, O., Marcotte, E., Xu, D., Hughes, T. & Roth, F. (2008). Quantitative gene function assignment from genomic datasets in *M. musculus*. *Genome Biology*, *9*, S2.
- D'Aspremont, A., El Ghaoui, L., Jordan, M. I., & Lanckriet, G. R. G. (2007). A direct formulation for sparse PCA using semidefinite programming. *SIAM Review*, *49*, 434-448.
- Kimmel, G., Jordan, M. I., Halperin, E., Shamir, R., & Karp, R. (2007). A randomization test for controlling population stratification in whole-genome association studies. *American Journal of Human Genetics*, *81*, 895-905.
- Xing, E. P., Jordan, M. I., & Sharan, R. (2007). Bayesian haplotype inference via the Dirichlet process. *Journal of Computational Biology*, *14*, 267-284.
- Teh, Y. W., Jordan, M. I., Beal, M. J., & Blei, D. M. (2006). Hierarchical Dirichlet processes. *Journal of the American Statistical Association*, *101*, 1566-1581.

- Bartlett, P., Jordan, M. I., & McAuliffe, J. D. (2006). Convexity, classification and risk bounds. *Journal of the American Statistical Association*, *101*, 138-156.
- Bach, F. R., & Jordan, M. I. (2006). Learning spectral clustering, with application to speech separation. *Journal of Machine Learning Research*, *7*, 1963-2001.
- Wainwright, M. & Jordan, M. I. (2006). Log-determinant relaxation for approximate inference in discrete Markov random fields. *IEEE Transactions on Signal Processing*, *54*, 2099-2109.
- McAuliffe, J. D., Blei, D. M., & Jordan, M. I. (2006). Nonparametric empirical Bayes for the Dirichlet process mixture model. *Statistics and Computing*, *16*, 5-14.
- Taskar, B., Lacoste-Julien, S., & Jordan, M. I. (2006). Structured prediction, dual extragradient and Bregman projections. *Journal of Machine Learning Research*, *7*, 1627-1653.
- Blei, D. M., Franks, K. Jordan, M. I. & Mian, S. (2006). Mining the Caenorhabditis Genetic Center bibliography for genes related to life span. *BMC Bioinformatics* *7*, 250-269.
- McAuliffe, J. D., Jordan, M. I. & Pachter, L. (2005). Subtree power analysis and species selection for comparative genomics. *Proceedings of the National Academy of Sciences*, *102*, 7900-7905.
- Engelhardt, B., Jordan, M. I., Muratore, K., & Brenner, S. (2005). Protein function prediction via Bayesian phylogenomics. *PLoS Computational Biology*, *1*, e45.
- Blei, D. M., & Jordan, M. I. (2005). Variational inference for Dirichlet process mixtures. *Bayesian Analysis*, *1*, 121-144.
- Gyaneshwar, P., Paliy, O., McAuliffe, J., Popham, D. L., Jordan, M. I., & Kustu, S. (2005). Lessons from *Escherichia coli* genes similarly regulated in response to nitrogen and sulfur limitation. *Proceedings of the National Academy of Sciences*, *102*, 3453-3458.
- Nguyen, X., Wainwright, M., & Jordan, M. I. (2005). Nonparametric decentralized detection using kernel methods. *IEEE Transactions on Signal Processing*, *53*, 4053-4066.
- Lee, W., St. Onge, R. P., Proctor, M., Flaherty, P., Jordan, M. I., Arkin, A. P., Davis, R. W., Nislow, C., & Giaever, G. (2005). Genome-wide requirements for resistance to functionally distinct DNA-damaging agents. *PLoS Genetics*, *1*, 235-246.
- Gyaneshwar, P., Paliy, O., McAuliffe, J., Jones, A., Jordan, M. I., & Kustu, S. (2005). Sulfur and nitrogen limitation in *Escherichia coli* K12: specific homeostatic responses. *Journal of Bacteriology*, *187*, 1074-1090.

- Nguyen, X., Jordan, M. I., & Sinopoli, B. (2005). A kernel-based learning approach to ad hoc sensor network localization. *ACM Transactions on Sensor Networks*, *1*, 134-152.
- Flaherty, P., Giaever, G., Kumm, J., Jordan, M. I., & Arkin, A. P. (2005). A latent variable model for chemogenomic profiling. *Bioinformatics*, *21*, 3286-3293.
- Jordan, M. I. (2004). Graphical models. *Statistical Science*, *19*, 140-155.
- Giaever, G., Flaherty, P., Kumm, J., Proctor, M., Jaramillo, D. F., Chu, A. M., Jordan, M. I., Arkin, A. P. and Davis, R. W. (2004). Chemogenomic profiling: Identifying the functional interactions of small molecules in yeast. *Proceedings of the National Academy of Sciences*, *3*, 793-798.
- McAuliffe, J. D., Pachter, L., & Jordan, M. I. (2004). Multiple-sequence functional annotation and the generalized hidden Markov phylogeny. *Bioinformatics*, *20*, 1850-1860.
- Lanckriet, G. R. G., De Bie, T., Cristianini, N., Jordan, M. I., & Noble, W. S. (2004). A statistical framework for genomic data fusion. *Bioinformatics*, *20*, 1-10.
- Bach, F. R., & Jordan, M. I. (2004). Learning graphical models for stationary time series. *IEEE Transactions on Signal Processing*, *52*, 2189-2199.
- Fukumizu, K., Bach, F. R., & Jordan, M. I. (2004). Dimensionality reduction for supervised learning with reproducing kernel Hilbert spaces. *Journal of Machine Learning Research*, *5*, 73-99.
- Sinopoli, B., Schenato, L., Franceschetti, M., Poolla, K., Jordan, M. I., & Sastry, S. (2004). Kalman filtering with intermittent observations. *IEEE Transactions on Automatic Control*, *49*, 1453-1464.
- Xing, E. P., Wu, W., Jordan, M. I., & Karp, R. M. (2004). LOGOS: A modular Bayesian model for *de novo* motif detection. *Journal of Bioinformatics and Computational Biology*, *2*, 127-154.
- Lanckriet, G. R. G., Cristianini, N., Bartlett, P., El Ghaoui, L., & Jordan, M. I. (2004). Learning the kernel matrix with semidefinite programming. *Journal of Machine Learning Research*, *5*, 27-72.
- Bhattacharyya, C., Grate, L. R., Jordan, M. I., El Ghaoui, L., & Mian, I. S. (2004). Robust sparse hyperplane classifiers: application to uncertain molecular profiling data. *Journal of Computational Biology*, *11*, 1073-1089.
- Corbin, R. W., Paliy, O., Yang, F., McAuliffe, J., Shabnowitz, J, Platt, M., Lyons, Jr., C. E., Root, K., Jordan, M. I., Kustu, S., Soupene, G., & Hunt, D. F. (2003). Toward a protein profile of *Escherichia coli*: comparison to its transcription profile. *Proceedings of the National Academy of Sciences*, *100*, 9232-9237.

- Bach, F., & Jordan, M. I. (2003). Beyond independent components: Trees and clusters. *Journal of Machine Learning Research*, 4, 1205-1233.
- Barnard, K., Duygulu, P., De Freitas, N., Forsyth, D., Blei, D., & Jordan, M. I. (2003). Matching words and pictures. *Journal of Machine Learning Research*, 3, 1107-1135.
- Grate, L. R., Bhattacharyya, C., Jordan, M. I., & Mian, I. S. (2003). Integrated analysis of transcript profiling and protein sequence data. *Mechanisms of Ageing and Development*, 124, 109-114.
- Blei, D., Ng, A., & Jordan, M. I. (2003). Latent Dirichlet allocation. *Journal of Machine Learning Research*, 3, 993-1022.
- Bhattacharyya, C., Grate, L. R., Rizki, A., Radisky, D., Molina, F. J., Jordan, M. I., Bissell, M. J. & Mian, I. S. (2003). Simultaneous classification and relevant feature identification in high-dimensional spaces: Application to molecular profiling data. *Signal Processing*, 83, 729-743.
- Andrieu, C., De Freitas, J., Doucet, A., & Jordan, M. I. (2003). An introduction to MCMC for machine learning. *Machine Learning*, 50, 5-43.
- Todorov, E., & Jordan, M. I. (2002). Optimal feedback control as a theory of motor coordination. *Nature Neuroscience*, 5, 1226-1235.
- Bach, F. R., & Jordan, M. I. (2002). Kernel independent component analysis. *Journal of Machine Learning Research*, 3, 1-48.
- Houde, J., & Jordan, M. I. (2002). Sensorimotor adaptation of speech I: Compensation and adaptation. *Journal of Speech, Language, and Hearing Research*, 45.
- Lanckriet, G. R. G., El Ghaoui, L., Bhattacharyya, C., & Jordan, M. I. (2002). A robust minimax approach to classification. *Journal of Machine Learning Research*, 3, 555-582.
- Jaakkola, T., & Jordan, M. I. (2000). Bayesian parameter estimation via variational methods. *Statistics and Computing*, 10, 25-37.
- Ma, J., Xu, L., & Jordan, M. I. (2000). Asymptotic properties of the convergence rate of the EM algorithm for Gaussian mixtures. *Neural Computation*, 12, 2881-2908.
- Saul, L. K., & Jordan, M. I. (2000). Attractor dynamics in feedforward neural networks. *Neural Computation*, 12, 1313-1335.
- Meila, M., & Jordan, M. I. (2000). Learning with mixtures of trees. *Journal of Machine Learning Research*, 1, 1-48.

- Saul, L. K., & Jordan, M. I. (1999). Mixed memory Markov models: Decomposing complex stochastic processes as mixture of simpler ones. *Machine Learning*, *37*, 75–87.
- Desmurget, M., Prablanc, C., Jordan, M. I., & Jeannerod, M. (1999). Are reaching movements planned to be straight and invariant in the extrinsic space? *Quarterly Journal of Experimental Psychology*, *52*, 981–1020.
- Jordan, M. I., Ghahramani, Z., Jaakkola, T. S., & Saul, L. K. (1999). An introduction to variational methods for graphical models. *Machine Learning*, *37*(2), 183–233.
- Jaakkola, T., & Jordan, M. I. (1999). Variational probabilistic inference and the QMR-DT network. *Journal of Artificial Intelligence Research*, *10*, 291–322.
- Houde, J., & Jordan, M. I. (1998). Adaptation in speech production. *Science*, *279*, 1213–1216.
- Sabes, P. N., Jordan, M. I., & Wolpert, D. M. (1998). The role of inertial sensitivity in motor planning. *Journal of Neuroscience*, *18*, 5948–5959.
- Todorov, E., & Jordan, M. I. (1998). Smoothness maximization along a predefined path accurately predicts the speed profiles of complex arm movements. *Journal of Neurophysiology*, *80*, 696–714.
- Smyth, P., Heckerman, D., & Jordan, M. I. (1997). Probabilistic independence networks for hidden Markov probability models. *Neural Computation*, *9*, 227–270.
- Desmurget, M., Jordan, M. I., Prablanc, C. & Jeannerod, M. (1997). Constrained and unconstrained movements involve different control strategies. *Journal of Neurophysiology*, *77*, 1644–1650.
- Sabes, P. N., & Jordan, M. I. (1997). Obstacle avoidance and a perturbation sensitivity model for motor planning. *Journal of Neuroscience*, *17*, 7119–7128.
- Ghahramani, Z., & Jordan, M. I. (1997). Factorial Hidden Markov models. *Machine Learning*, *29*, 245–273.
- Desmurget, M., Rossetti, Y., Jordan, M. I., Meckler, C. & Prablanc, C. (1997). Viewing the hand prior to movement improves accuracy of pointing performed toward the unseen contralateral hand. *Experimental Brain Research*, *115*, 180–186.
- Xu, L., & Jordan, M. I. (1996). On convergence properties of the EM algorithm for Gaussian mixtures. *Neural Computation*, *8*, 129–151.
- Saul, L. K., Jaakkola, T., & Jordan, M. I. (1996). Mean field theory for sigmoid belief networks. *Journal of Artificial Intelligence Research*, *4*, 61–76.

- Alpaydin, E., & Jordan, M. I. (1996). Local linear perceptrons for classification. *IEEE Transactions on Neural Networks*, 7, 788–792.
- Cohn, D., Ghahramani, Z., & Jordan, M. I. (1996). Active learning with statistical models. *Journal of Artificial Intelligence Research*, 4, 129–145.
- Jordan, M. I., & Bishop, C. (1996). Neural networks. *Computing Surveys*, 28, 73–75.
- Ghahramani, Z., Wolpert, D., & Jordan, M. I. (1996). Generalization to local remappings of the visuomotor coordinate transformation. *Journal of Neuroscience*, 16, 7085–7096.
- Jordan, M. I. (1995). The organization of action sequences: Evidence from a relearning task. *Journal of Motor Behavior*, 27, 179–192.
- Wolpert, D., Ghahramani, Z., & Jordan, M. I. (1995). Are arm trajectories planned in kinematic or dynamic coordinates? An adaptation study. *Experimental Brain Research*, 103, 460–470.
- Wolpert, D., Ghahramani, Z., & Jordan, M. I. (1995). An internal forward model for sensorimotor integration. *Science*, 269, 1880–1882.
- Houde, J. & Jordan, M. I. (1995). Adaptation in speech production to transformed auditory feedback. *Journal of the Acoustical Society of America*, 97, 3243.
- Jordan, M. I., & Xu, L. (1995). Convergence results for the EM approach to mixtures-of-experts architectures. *Neural Networks*, 8, 1409–1431.
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