Curriculum Vitae

Tony Jebara, PhD, Associate Professor, Department of Computer Science, Columbia University
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Tel: 212-939-7079, Fax: 212-666-0140, jebara@cs.columbia.edu, www.cs.columbia.edu/learning

Research Area: Machine Learning (also Computer Vision, Graphs, Spatio-Temporal Modeling).

Status: US Citizen and Canadian Citizen.

Appointments

- Columbia University, Computer Science, Associate Professor with Tenure (2010-)
- Columbia University, Computer Science, Associate Professor (2008-2010)
- Sense Networks, Co-Founder and Chief Scientist (2006-2011)
- Columbia University, Computer Science, Assistant Professor (2002-2007)

Education

- Massachusetts Institute of Technology, PhD, 2002 (Advisors: A. Pentland and T. Jaakkola)
- Massachusetts Institute of Technology, MSc, 1998 (Advisor: A. Pentland)
- McGill University, BEng, 1996 (Advisor: M. Levine)

Academic Awards

- Neural and Cognitive Computation Chair Professor at Tsinghua University, 2013-2015.
- IBM Faculty Award, 2013.
- Yahoo Faculty Award, 2011.
- Google Faculty Award, 2009.
- Best Paper Award at the 26th International Conference on Machine Learning, 2009.
- IEEE ICTAI Award for Contributions to Artificial Intelligence, 2009.
- National Science Foundation Career Award, 2004.
- Best Student Paper Award at the 20th International Conference on Machine Learning, 2003.
- Honorable Mention Winner of the 27th Annual Pattern Recognition Society Award, 2001.

Industry and Popular Press Awards

- New York Times, Top 10 Internet of Things Products of 2009 (for Sense Networks).
- Intel CEO Summit, Best Elevator Pitch Award, November 2009 (for Sense Networks).
- BusinessWeek World's 25 Most Intriguing Startups 2009 (for Sense Networks).
- Company to Watch Award, Emerging Communications Conference 2009 (for Sense Networks).
- Gartner Group Cool Vendor Award 2009 (for Sense Networks).
- AlwaysOn Media Awards 2009 (for Sense Networks).
- Frost & Sullivan's North American Technology Innovation Award 2009 (for Sense Networks).
- Esquire Magazine, Best and Brightest Award, 2008.

Citation Impact via http://scholar.google.com/citations?user=Dn_qYK8AAAAJ

- Total Articles: 100+
- Total Citations: 7,000+
- h-Index: 38+ (number of papers with h or more citations)

PUBLICATIONS

Books

1. **T. Jebara**. Machine Learning: Discriminative and Generative. Kluwer Academic (Springer) 2004. ISBN 1-4020-7647-9.

Refereed Conference Papers

2. K. Tang, N. Ruozzi, D. Belanger, and **T. Jebara**. Bethe learning of graphical models via MAP decoding. International Conference on Artificial Intelligence and Statistics (AISTATs), 2016.
3. B. Kapicioglu, D.S. Rosenberg, R.E. Schapire and **T. Jebara**. Collaborative Place Models. International Joint Conferences on Artificial Intelligence (IJCAI), 2015. Oral, Acceptance Rate [**28.8%**].
4. A. Weller and **T. Jebara**. Clamping Variables and Approximate Inference. Neural Information Processing Systems (NIPS), 2014. Oral, Acceptance Rate [**1%**].
5. N. Ruozzi and **T. Jebara**. Making Pairwise Binary Graphical Models Attractive. Neural Information Processing Systems (NIPS), 2014. Spotlight, Acceptance Rate [**5%**].
6. A. Weller and **T. Jebara**. Approximating the Bethe Partition Function. Uncertainty in Artificial Intelligence (UAI), 2014. Acceptance Rate [**33%**].
7. A. Weller, K. Tang, D. Sontag, and **T. Jebara**. Understanding the Bethe Approximation: When and How can it go Wrong? Uncertainty in Artificial Intelligence (UAI), 2014. Acceptance Rate [**33%**].
8. B. Kapicioglu, D. Rosenberg, R. Schapire, and **T. Jebara**. Collaborative Ranking for Local Preferences. Seventeenth International Conference on Artificial Intelligence and Statistics (AISTATS), 2014. Acceptance Rate [**36%**].
9. K. Choromanski, **T. Jebara** and K. Tang. Adaptive Anonymity via b-Matching. Neural Information Processing Systems (NIPS), 2013. Spotlight, Acceptance Rate [**5%**].
10. J. Merel, R. Fox, **T. Jebara** and L. Paninski. A Multi-Agent Control Framework for Co-Adaptation in Brain-Computer Interfaces. Neural Information Processing Systems (NIPS), 2013. Acceptance Rate [**25%**].
11. A. Choromanska, H. Kim, **T. Jebara**, M. Mohan and C. Monteleoni. Fast Spectral Clustering via the Nystrom Method. Algorithmic Learning Theory (ALT), October 2013.
12. A. Weller and **T. Jebara**. On MAP Inference by MWSS on Perfect Graphs. Uncertainty in Artificial Intelligence (UAI), July 2013. Oral, Acceptance Rate [**11%**].
13. F. Yu, D. Liu, S. Kumar, **T. Jebara**, and S.F. Chang. $\propto$SVM for Learning with Label Proportions. International Conference on Machine Learning (ICML), 2013. Oral, Acceptance Rate [**12%**].
14. A. Weller and **T. Jebara**. Bethe Bounds and Approximating the Global Optimum. Sixteenth International Conference on Artificial Intelligence and Statistics (AISTATS), 2013. Acceptance Rate [**33%**].
15. S. Bellovin, R. Hutchins, **T. Jebara** and S. Zimmeck. When Enough is Enough: Location Tracking, Mosaic Theory and Machine Learning, Privacy Law Scholars Conference (PLSC), 2013.
16. **T. Jebara** and A. Choromanska. Majorization for CRFs and Latent Likelihoods, Neural Information Processing Systems (NIPS), 2012. Spotlight, Acceptance Rate [**5%**].
17. B. Shaw, B. Huang and **T. Jebara**. Learning a Distance Metric from a Network, Neural Information Processing Systems (NIPS), 2011. Acceptance Rate [**22%**].

18. P. Shivaswamy and **T. Jebara**. Variance Penalizing AdaBoost, Neural Information Processing Systems (NIPS), 2011. Acceptance Rate [**22%**].
19. Y. Song, S. Stolfo and **T. Jebara**. Behavior-Based Network Traffic Synthesis, IEEE International Conference on Technologies for Homeland Security (IEEE HST), 2011.
20. A. Moghadam, **T. Jebara** and H. Schulzrinne. A Markov Routing Algorithm for Mobile DTNs based on Spatio-Temporal Modeling of Human Movement Data. Fourteenth ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), 2011.
21. B. Huang and **T. Jebara**. Fast b-matching via Sufficient Selection Belief Propagation. Fourteenth International Conference on Artificial Intelligence and Statistics (AISTATS), 2011. Acceptance Rate [**28%**].
22. P. Shivaswamy and **T. Jebara**. Laplacian Spectrum Learning. European Conference on Machine Learning (ECML), 2010. Acceptance Rate [**16%**].
23. P. Shivaswamy and **T. Jebara**. Empirical Bernstein Boosting. Thirteenth International Conference on Artificial Intelligence and Statistics (AISTATS), 2010. Talk, Acceptance Rate [**8%**].
24. B. Huang and **T. Jebara**. Collaborative Filtering via Rating Concentration. Thirteenth International Conference on Artificial Intelligence and Statistics (AISTATS), 2010. Acceptance Rate [**40%**].
25. **T. Jebara**. MAP Estimation, Message Passing, and Perfect Graphs. Uncertainty in Artificial Intelligence (UAI), June 2009. Acceptance Rate [**31%**].
26. **T. Jebara**, J. Wang and S.-F. Chang. Graph Construction and b-Matching for Semi-Supervised Learning. International Conference on Machine Learning (ICML), June 2009. Talk, Acceptance Rate [**27%**].
27. B. Shaw and **T. Jebara**. Structure Preserving Embedding. International Conference on Machine Learning (ICML), June 2009. **BEST PAPER AWARD.** Talk, Acceptance Rate [**27%**].
28. P. Shivaswamy and **T. Jebara**. Structured Prediction with Relative Margin. International Conference on Machine Learning and Applications (ICMLA), December 2009.
29. B. Huang and **T. Jebara**. Exact Graph Structure Estimation with Degree Priors. International Conference on Machine Learning and Applications (ICMLA), December 2009.
30. A. Howard and **T. Jebara**. Transformation Learning Via Kernel Alignment. International Conference on Machine Learning and Applications (ICMLA), December 2009.
31. A. Weller, D. Ellis and **T. Jebara**. Structured Prediction Models for Chord Transcription of Music Audio. International Conference on Machine Learning and Applications (ICMLA), December 2009. **Winner of the MIREX 2010 Challenge.**
32. M. Loecher and **T. Jebara**. CitySense: Multiscale Space Time Clustering of GPS Points and Trajectories. Proceedings of the Joint Statistical Meeting (JSM), 2009.
33. P. Shivaswamy and **T. Jebara**, Relative Margin Machines, Neural Information Processing Systems (NIPS), December 2008. Acceptance Rate [**24%**].
34. W. Jiang, S.-F. Chang, **T. Jebara**, and A. Loui. Semantic Concept Classification by Joint Semi-supervised Learning of Feature Subspaces and Support Vector Machines. European Conference on Computer Vision (ECCV), October 2008. Acceptance Rate [**28%**].
35. **T. Jebara**. Bayesian Out-Trees. Uncertainty in Artificial Intelligence (UAI), July 2008. Acceptance Rate [**28%**].
36. J. Wang, **T. Jebara**, and S.-F. Chang. Graph Transduction via Alternating Minimization. International Conference on Machine Learning (ICML), July 2008. Talk, Acceptance Rate [**27%**].

37. **T. Jebara,** Y. Song and K. Thadani. Density Estimation under Independent Similarly Distributed Sampling Assumptions. Neural Information Processing Systems (NIPS), December 2007. Spotlight, Acceptance Rate [**10%**].
38. A. Howard and **T. Jebara**. Learning Monotonic Transformations for Classification. Neural Information Processing Systems (NIPS), December 2007. Spotlight, Acceptance Rate [**10%**].
39. **T. Jebara,** Y. Song and K. Thadani. Spectral Clustering and Embedding with Hidden Markov Models. European Conference on Machine Learning (ECML), September 2007. Talk, Acceptance Rate [**9%**].
40. P. Shivaswamy and **T. Jebara**. Ellipsoidal Kernel Machines. Artificial Intelligence and Statistics (AISTATS), March 2007. Talk, Acceptance Rate [**13%**].
41. B. Huang and **T. Jebara**. Loopy Belief Propagation for Bipartite Maximum Weight b-Matching. Artificial Intelligence and Statistics (AISTATS), March 2007. Talk, Acceptance Rate [**13%**].
42. R. Kondor, A. Howard and **T. Jebara**. Multi-object tracking with representations of the symmetric group. Artificial Intelligence and Statistics (AISTATS), March 2007. Acceptance Rate [**50%**].
43. B. Shaw and **T. Jebara**. Minimum Volume Embedding. Artificial Intelligence and Statistics (AISTATS), March 2007. Acceptance Rate [**50%**] .
44. R. Kondor and **T. Jebara**. Gaussian and Wishart Hyperkernels. Neural Information Processing Systems (NIPS), December 2006. Acceptance Rate [**24%**].
45. M. Mandel, D. Ellis and **T. Jebara**. An EM Algorithm for Localizing Multiple Sound Sources in Reverberant Environments. Neural Information Processing Systems (NIPS), December 2006. Acceptance Rate [**24%**].
46. **T. Jebara** and V. Shchogolev. B-Matching for Spectral Clustering. European Conference on Machine Learning (ECML), September 2006. Acceptance Rate [**21%**]. **Winner of the KDD ER1B 2005 Challenge.**
47. D. Lewis, **T. Jebara** and W. Noble. Nonstationary Kernel Combination. International Conference on Machine Learning (ICML), June 2006. Talk, Acceptance Rate [**20%**].
48. P. Shivaswamy and **T. Jebara**. Permutation Invariant SVMs. International Conference on Machine Learning (ICML), June 2006. Talk, Acceptance Rate [**20%**].
49. C.Y. Ro, I.K. Toumpoulis, R.C. Ashton, **T. Jebara**, C. Schulman, G.J. Todd, J.J. Derose and J.J. McGinty. The LapSim: a learning environment for both experts and novices. Studies in Health Technology and Informatics, Medecine Meets Virtual Reality MMVR 13, Volume 111, p. 414-417, 2005.
50. C.Y. Ro, I.K. Toumpoulis, R.C. Ashton, C. Imielinska, C., **T. Jebara**, S.H. Shin, J.D. Zipkin, J.J McGinty, G.J. Todd, J.J. DeRose. A Novel Drill Set for the Enhancement and Assessment of Robotic Surgical Performance. Studies in Health Technology and Informatics, Medecine Meets Virtual Reality MMVR 13, Volume 111, pp. 418-421, 2005.
51. A. Howard and **T. Jebara**. Dynamical Systems Trees, Uncertainty in Artificial Intelligence (UAI), July 2004. Spotlight, Acceptance Rate [**30%**].
52. **T. Jebara**. Kernelizing Sorting, Permutation and Alignment for Minimum Volume PCA. Conference on Learning Theory (COLT), July 2004. Talk, Acceptance Rate [**25%**].
53. **T. Jebara**. Multi-Task Feature and Kernel Selection for SVMs. International Conference on Machine Learning (ICML), July 2004. Talk, Acceptance Rate [**32%**].
54. R. Pelossof, A. Miller, P. Allen and **T. Jebara**. An SVM Learning Approach to Robotic Grasping. International Conference on Robotics and Automation (ICRA), April 2004. Talk, Acceptance Rate [**58%**].
55. **T. Jebara**. Images as Bags of Pixels. International Conference on Computer Vision (ICCV), October 2003. Acceptance Rate [**16%**].

56. **T. Jebara** and R. Kondor. Bhattacharyya and Expected Likelihood Kernels. Conference on Learning Theory (COLT), August 2003. Talk, Acceptance Rate [**28%**].
57. R. Kondor and **T. Jebara**. A Kernel between Sets of Vectors. International Conference on Machine Learning (ICML), August 2003. **BEST STUDENT PAPER AWARD.** Talk, Acceptance Rate [**32%**].
58. **T. Jebara**. Convex Invariance Learning. Artificial Intelligence and Statistics (AISTATS), January 2003. Talk, Acceptance Rate [**15%**].
59. **T. Jebara** and A. Pentland. Statistical Imitative Learning from Perceptual Data. In International Conference on Development and Learning (ICDL), 2002. Talk, Acceptance Rate [**50%**].
60. **T. Jebara** and A. Pentland. On Reversing Jensen's Inequality. In Neural Information Processing Systems 13 (NIPS), 2000. Acceptance Rate [**30%**].
61. **T. Jebara** and T. Jaakkola. Feature Selection and Dualities in Maximum Entropy Discrimination. In 16th Conference on Uncertainty in Artificial Intelligence (UAI), 2000. Acceptance Rate [**36%**].
62. T. Jaakkola, M. Meila and **T. Jebara**. Maximum Entropy Discrimination. In Neural Information Processing Systems 12 (NIPS), 1999. Talk, Acceptance Rate [**4%**].
63. T. Choudhury, B. Clarkson, **T. Jebara** and A. Pentland. Multimodal Person Recognition using Unconstrained Audio and Video. In Second Conference on Audio- and Video-based Biometric Person Authentication (AVBPA), 1999. Talk.
64. **T. Jebara** and A. Pentland. Action Reaction Learning: Automatic Visual Analysis and Synthesis of Interactive Behaviour. International Conference on Computer Vision Systems (ICVS), 1999. Talk.
65. B. Schiele, N. Oliver, **T. Jebara** and Alex Pentland. An Interactive Computer Vision System, DyPERS: Dynamic Personal Enhanced Reality System. International Conference on Computer Vision Systems (ICVS), 1999. Talk.
66. B. Moghaddam, **T. Jebara** and A. Pentland. Bayesian Modeling of Facial Similarity. In Neural Information Processing Systems 11 (NIPS), 1998. Acceptance Rate [**31%**].
67. **T. Jebara** and A. Pentland. Maximum Conditional Likelihood via Bound Maximization and the CEM Algorithm. In Neural Information Processing Systems 11 (NIPS), 1998. Acceptance Rate [**31%**].
68. B. Moghaddam, **T. Jebara** and A. Pentland. Efficient MAP / ML Similarity Matching for Visual Recognition. In the 14th International Conference on Pattern Recognition (ICPR), 1998. Talk, Acceptance Rate [**63%**].
69. **T. Jebara**, K. Russell and A. Pentland. Mixtures of Eigenfeatures for Real-Time Structure from Texture. In Proceedings of the International Conference on Computer Vision (ICCV), 1998. Talk, Acceptance Rate [**7%**].
70. **T. Jebara**, C. Eyster, J. Weaver, T. Starner and A. Pentland. Stochasticks: Augmenting the Billiards Experience with Probabilistic Vision and Wearable Computers. In Proceedings of the International Symposium on Wearable Computers (ISWC), 1997. Talk, Acceptance Rate [**18%**].
71. **T. Jebara** and A. Pentland. Parametrized Structure from Motion for 3D Adaptive Feedback Tracking of Faces. In IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 1997. Talk, Acceptance Rate [**11%**].

Refereed Journal Papers

72. S.M. Bellovin, R.M. Hutchins, **T. Jebara** and S. Zimmeck, When Enough is Enough: Location Tracking, Mosaic Theory and Machine Learning, 8 New York University Journal of Law & Liberty 556 (2014).

73. J. Wang, **T. Jebara** and S.-F. Chang. Semi-Supervised Learning Using Greedy Max-Cut. *Journal of Machine Learning Research*, Volume 14, pages 771-800, 2013.
74. **T. Jebara**. Multitask Sparsity via Maximum Entropy Discrimination. *Journal of Machine Learning Research*, Volume 12, pages 75-110, 2011.
75. P. Shivaswamy and **T. Jebara**. Maximum Relative Margin and Data-Dependent Regularization. *Journal of Machine Learning Research*, Volume 11, pages 665-706, 2010.
76. D. Lazer, A. Pentland, L. Adamic, S. Aral, A.-L. Barabási, D. Brewer, N. Christakis, N. Contractor, J. Fowler, M. Gutmann, **T. Jebara**, G. King, M. Macy, D. Roy, M. Van Alstyne. Computational Social Science. *Science*, Volume 323, Pages 721-723, February 6, 2009.
77. C. Lima, U. Lall, **T. Jebara**, and A.G. Barnston. Statistical Prediction of ENSO from Subsurface Sea Temperature Using a Nonlinear Dimensionality Reduction, *Journal of Climate*, Volume 22, Number 17, Pages 4501-4519, September 1, 2009.
78. G. Deak, M. Bartlett and **T. Jebara**. Understanding the Development of Social Agents: New Trends in Integrative Cognitive Science, ICDL Special Issue, *Neurocomputing* Volume 70, Issues 13-15, August 2007, Pages 2139-2147.
79. **T. Jebara**, V. Shchogolev and R. Kondor. B-Matching for Identifying Authorship from Text, *Journal of Intelligence Community Research and Development*, December 2006.
80. D. Lewis, **T. Jebara** and W. Noble. Support Vector Machine Learning from Heterogeneous Data: an Empirical Analysis Using Protein Sequence and Structure, *Bioinformatics*, 22(22):2753-2760, 15 November 2006.
81. K. Nishino, S. Nayar and **T. Jebara**. Clustered Blockwise PCA for Representing Visual Data. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 27, No. 10, p. 1675, October 2005.
82. **T. Jebara**, R. Kondor and A. Howard. Probability Product Kernels. *Journal of Machine Learning Research*, Special Topic on Learning Theory, Volume 5 (Jul): 819-844, July 2004.
83. B. Schiele, **T. Jebara** and N. Oliver. Sensory Augmented Computing: Wearing the Museum's Guide. *IEEE Micro* 21 (3), May 2001.
84. B. Moghaddam, **T. Jebara** and A. Pentland. Bayesian Face Recognition. *Pattern Recognition*, Vol. 33, No. 11, Pergamon Press, November 2000. **HONORABLE MENTION AWARD.**
85. **T. Jebara**, A. Azarbayejani and A. Pentland. 3D Structure from 2D Motion. In *IEEE Signal Processing*, May 1999, Vol. 16. No. 3.

Refereed Workshop Papers

86. A. Aravkin, A. Choromanska, **T. Jebara** and D. Kanevsky. Semistochastic Quadratic Bound Methods. Second International Conference on Learning Representations, (ICLR) 2014.
87. C. Lima, U. Lall, **T. Jebara**, and A.G. Barnston. Machine Learning Methods for ENSO Analysis and Predictions. Climate Informatics Workshop (CI), 2014.
88. K. Tang, A. Weller and **T. Jebara**. Network ranking with Bethe pseudomarginals. Fifth NIPS Workshop on Discrete and Combinatorial Problems in Machine Learning (DISCML), 2013.
89. C. Lima, U. Lall and **T. Jebara**. Unveiling the Spatio-Temporal Variability Modes of Climate Systems Using a Nonlinear Method of Dimensionality Reduction. Climate Informatics Workshop (CI), 2013.
90. B. Huang, B. Shaw and **T. Jebara**. Learning a Degree-Augmented Distance Metric From a Network. Beyond Mahalanobis: Supervised Large-Scale Learning of Similarity Workshop, Neural Information Processing Systems (NIPS), 2011. Talk, Acceptance Rate [**29%**].

91. B. Huang, B. Shaw and **T. Jebara**. Network Prediction with Degree Distributional Metric Learning. Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), 2011.
92. B. Shaw and **T. Jebara**. Visualizing Social Networks with Structure Preserving Embedding. Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS), 2011.
93. B. Huang and **T. Jebara**. Maximum Likelihood Graph Structure Estimation with Degree Distributions. Analyzing Graphs: Theory and Applications Workshop, NIPS 2008. Talk, Acceptance Rate [**29%**].
94. B. Shaw and **T. Jebara**. Visualizing Graphs with Structure Preserving Embedding. Analyzing Graphs: Theory and Applications Workshop, NIPS 2008.
95. A. Howard and **T. Jebara**. Learning Large Margin Mappings. Kernel Learning Workshop, NIPS 2008.
96. S. Andrews and **T. Jebara**. Graph Reconstruction with Degree-Constrained Subgraphs. Workshop on Statistical Network Models, NIPS 2007.
97. S. Andrews and **T. Jebara**. Structured Network Learning. Workshop on Learning to Compare Examples, NIPS 2006. Talk, Acceptance Rate [**50%**].
98. **T. Jebara**, Y. Ivanov, A. Rahimi and A. Pentland. Tracking Conversational Context for Machine Mediation of Human Discourse. American Association for Artificial Intelligence Fall Sypmosium (AAAI), 2000.
99. J. Strom, **T. Jebara**, S. Basu and A. Pentland. Real Time Tracking and Modeling of Faces: An EKF-based Analysis by Synthesis Approach. Appears in: Proceedings of the Modelling People Workshop at ICCV, 1999.
100. **T. Jebara**, B. Schiele, N. Oliver and A. Pentland. Dynamic Personal Enhanced Reality System. In Proceedings of the 1998 Image Understanding Workshop, 1998.
101. T. Starner, B. Schiele, B. Rhodes, **T. Jebara**, N. Oliver, J. Weaver and A. Pentland. Augmented Realities Integrating User and Physical Models. In Workshop on Augmented Reality, 1998.
102. **T. Jebara** and A. Pentland. Action Reaction Learning: Analysis and Synthesis of Human Behaviour. In IEEE Workshop on the Interpretation of Visual Motion in conjunction with IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 1998.
103. D. Roy, M. Hlavac, M. Umaschi, **T. Jebara**, J. Cassell and A. Pentland. Toco the Toucan: A Synthetic Character Guided by Perception, Emotion and Story. Visual Proceedings of SIGGRAPH, pg. 66, 1997.

Invited Book Chapters

104. C. Lima, U. Lall, **T. Jebara**, and A.G. Barnston. Machine Learning Methods for ENSO Analysis and Prediction. In *Machine Learning and Data Mining Approaches to Climate Science*, Springer, 2015.
105. **T. Jebara**. Modeling Large-Scale Networks. In *Frontiers of Engineering*, The National Academies Press, 2014.
106. **T. Jebara**. Perfect Graphs and Graphical Modeling. In *Tractability*, L. Bordeaux, Y. Hamadi, and P. Kohli, Cambridge University Press, 2013.
107. T. Starner, B. Schiele, B. Rhodes, **T. Jebara**, N. Oliver, J. Weaver and A. Pentland. Augmented Realities Integrating User and Physical Models. In *Augmented Reality: Placing Artificial Objects in Real Scenes*, R. Behringer, G. Klinker, G. J. Klinter and D. Mizell (editors), A. K. Peters Ltd., pp. 73-79, December, 1999.

Refereed Conference and Workshop Extended Abstracts

108. H. Kim and **T. Jebara**. The Effect of Geographical Proximity on Mobile Communication. Fourth Workshop on the Analysis of Mobile Phone Networks, (NetMob) 2015.
109. K. Tang, N. Ruozzi, D. Belanger and **T. Jebara**. Bethe learning with Frank Wolfe. New York Academy of Sciences, Machine Learning Symposium, March 2015.
110. F.X. Yu, S. Kumar, **T. Jebara** and S.-F. Chang. Learning from Label Proportions: Algorithm, Theory, and Applications. New York Academy of Sciences, Machine Learning Symposium, Spotlight, Acceptance Rate [**30%**], March 2014.
111. B. Kapicioglu, D. Rosenberg, R. Schapire, and **T. Jebara**. Place Models for Sparse Location Prediction. New York Academy of Sciences, Machine Learning Symposium, Spotlight, Acceptance Rate [**30%**], October 2012.
112. **T. Jebara** and A. Choromanska. Majorization for CRFs and Latent Likelihoods. New York Academy of Sciences, Machine Learning Symposium. **BEST PAPER AWARD.** Spotlight, Acceptance Rate [**30%**], October 2012.
113. B. Kapicioglu, D. Rosenberg, R. Schapire, and **T. Jebara**. Place Recommendation with Implicit Spatial Feedback. New York Academy of Sciences, Machine Learning Symposium, Spotlight, Acceptance Rate [**30%**], October 2011.
114. P. Shivaswamy and **T. Jebara**. Variational Empirical Bernstein Boosting. The Learning Workshop, April 2011.
115. D. Dueck and **T. Jebara**. Perfect Graphs and MAP Estimation. New York Academy of Sciences, Machine Learning Symposium, October 2010.
116. **T. Jebara**. Graphical Modeling and Inference with Perfect Graphs, The Learning Workshop (Talk), Snowbird, April 2010.
117. M. Loecher and **T. Jebara**. CitySense: Multiscale Space Time Clustering of GPS points and Trajectories. New York Academy of Sciences, Machine Learning Symposium, November 2009.
118. A. Weller, D. Ellis, and **T. Jebara**. Structured Prediction Models for Chord Transcription of Music Audio. New York Academy of Sciences, Machine Learning Symposium, November 2009.
119. B. Huang and **T. Jebara**. Learning with Subgraph Estimation and Degree Priors. New York Academy of Sciences, Machine Learning Symposium, November 2009.
120. P. Shivaswamy and **T. Jebara**. Structured Prediction with Relative Margin. New York Academy of Sciences, Machine Learning Symposium, November 2009.
121. B. Shaw and **T. Jebara**. Dimensionality Reduction, Clustering, and PlaceRank Applied to Spatiotemporal Flow Data. New York Academy of Sciences, Machine Learning Symposium, November 2009.
122. P. Shivaswamy and **T. Jebara**. Relative Margin Machines. New York Academy of Sciences, Machine Learning Symposium, Spotlight, Acceptance Rate [**33%**], October 2008.
123. B. Shaw and **T. Jebara**. Graph Embedding with Global Structure Preserving Constraints. New York Academy of Sciences, Machine Learning Symposium, October 2008.
124. A. Howard and **T. Jebara**. Large Margin Transformation Learning. New York Academy of Sciences, Machine Learning Symposium, October 2008.
125. **T. Jebara**. Out-Tree Dependent Nonparametric Bayesian Inference. ICML/COLT/UAI Workshop on Nonparametric Bayes, July 2008.
126. R. Kondor, A. Howard and **T. Jebara**. Solving the data association problem in multi-object tracking by Fourier analysis on the symmetric group. PASCAL 2008 Workshop on Approximate Inference in Stochastic Processes and Dynamical Systems, May 2008.
127. **T. Jebara**. Learning from Out-Tree Dependent Data. The Learning Workshop, Snowbird, April 2008.

128. **T. Jebara** and Y. Song and K. Thadani. Independent Similarly Distributed Assumptions for Semiparametric Density Estimation. New York Academy of Sciences, Machine Learning Symposium, Spotlight, Acceptance Rate [**20%**], October 2007.
129. B. Shaw and **T. Jebara**. Minimum Volume Embedding. New York Academy of Sciences, Machine Learning Symposium, October 2007.
130. P. Shivaswamy and **T. Jebara**. Ellipsoidal Kernel Machines. New York Academy of Sciences, Machine Learning Symposium, October 2007.
131. B. Huang and **T. Jebara**. Approximating the Permanent with Belief Propagation. New York Academy of Sciences, Machine Learning Symposium, October 2007.
132. S. Andrews and **T. Jebara**. A Transductive Max-Margin Framework for Completion of Structured Variables with Application to Semi-Supervised Graph Inference. New York Academy of Sciences, Machine Learning Symposium, October 2007.
133. **T. Jebara**, B. Shaw and A. Howard. Optimizing Eigen-Gaps and Spectral Functions using Iterated SDP. Learning Workshop (Talk), March 2007.
134. M. Mandel, D. Ellis and **T. Jebara**. Building a Binaural Source Separator. Workshop on Advances in Models for Acoustic Processing, NIPS 2006.
135. S. Andrews and **T. Jebara**. Predicting the edges of a network. New York Academy of Sciences, Machine Learning Symposium, October 2006.
136. A. Howard and **T. Jebara**. Isotonic Support Vector Machines. New York Academy of Sciences, Machine Learning Symposium, October 2006.
137. B. Huang and **T. Jebara**. Loopy Belief Propagation for Bipartite Maximum Weight B-Matching. New York Academy of Sciences, Machine Learning Symposium, October 2006.
138. **T. Jebara**, B. Shaw and V. Shchogolev. B-Matching for Embedding. The Learning Workshop, Snowbird, April 2006.
139. C.Y. Ro, J.J. McGinty, J.J. DeRose, I.K. Toumpoulis, C. Imielinska, **T. Jebara**, S.H. Shin, H.L. Chughtai, G.J. Todd, R.C. Ashton, A Novel Drill Set Allows Assessment of Robotic Surgical Performance, The Society of American Gastrointestinal and Endsocopic Surgeons Annual Meeting, SAGES, April 2005.
140. C.Y. Ro, J.J. DeRose, R.C. Ashton, **T. Jebara**, A. Burra, S.H. Shin, H.L. Chughtai, G.J. Todd and J.J. McGinty. The Impact of Haptic Expectations on Initial Lapsim Performance: Prior Laparoscopic Experience Does Not Predict Performance, The Society of American Gastrointestinal and Endsocopic Surgeons Annual Meeting, SAGES, April 2005.
141. R.C. Ashton, I.K. Toumpoulis, S. Kancherla, K. McGinnis, L. Withers, C. Connery and **T. Jebara**. Novel Method of Individual Cancer Risk Prediction Analysis for Indeterminate Pulmonary Nodules, American College of CHEST Physicians, October 2004.
142. **T. Jebara** and Y. Bengio. Orbit Learning using Convex Optimization. The Learning Workshop, Snowbird, April 2004.
143. R. Kondor, **T. Jebara**, G. Csanyi and S. Ahnert. Learning from Derivatives and other Linear Functionals. The Learning Workshop (Talk), Snowbird, April 2004.
144. **T. Jebara** and T. Jaakkola. Multi-Task SVM Feature Selection. The Learning Workshop, Snowbird, April 2002.
145. **T. Jebara** and A. Pentland. Latent Discriminative Learning. The Learning Workshop (Talk), Snowbird, April 2001.

Edited Volumes and Collections

146. E. Xing and **T. Jebara**. Proceedings of the 31st International Conference on Machine Learning, 2014.
147. S. Aravkin, L. Deng, G. Heigold, **T. Jebara**, D. Kanevsky, and S. Wright. Log-Linear Models, Computer Science and Linguistics Series, The MIT Press. 2014.

148. G. Deak, M. Bartlett and **T. Jebara**, Eds. Neurocomputing Special Issue on the International Conference on Development and Learning, 2007.
149. J. Triesch and **T. Jebara**, Eds. Proceedings of the 2004 International Conference on Development and Learning, ICDL, UCSD Institute for Neural Computation, ISBN 0-615-12704-5, 2004.

Unrefereed or Invited Workshop and Tutorial Abstracts

150. R. Kondor, A. Howard and **T. Jebara**, Multi-object tracking with representations of the symmetric group, Newton Institute Workshop on Inference and Estimation in Probabilistic Time-Series Models, June 2008.
151. **T. Jebara**, Tree Structure Distributions, Laplacians and Graph Manifolds, CIAR Neural Computation and Adaptive Perception Meeting, April 2005.
152. **T. Jebara**. Learning to Imitate using Wearable Audio-Visual Sensors. NIPS 2004 Workshop on Multimodal Signal Processing, December 2004.
153. **T. Jebara**. Large Margin Latent Graphical Models. NIPS 2004 Workshop Graphical Models and Kernels, December 2004.
154. A. J. Smola, R. I. Kondor, S. V. N. Vishwanathan and **T. Jebara** Semidefinite Relaxations for MAP Estimation in Exponential Families NIPS 2004 Workshop Graphical Models and Kernels, December 2004.
155. **T. Jebara**, Kernels between Distributions and Sets. MS-IMS-SIAM Conference on Machine Learning, Statistics and Discovery, 2003.
156. **T. Jebara** and R. Kondor. Probability Product Kernels. Workshop on Advances in Machine Learning, 2003.
157. **T. Jebara**. Alternating Projection for Independent Component Analysis. Neural Information Processing Systems 2002 Workshop on Independent Component Analysis and Beyond, 2002.
158. **T. Jebara**. Convex Invariance Learning. Neural Information Processing Systems 2002 Workshop on Spectral Methods in Dimensionality Reduction, Clustering and Classification, 2002.
159. **T. Jebara** and A. Pentland. Action Reaction Learning for Predicting Interactive Behaviour. British Machine Vision Association Workshop on Understanding Visual Behaviour, 2001.
160. A. Pentland, **T. Jebara**, B. Clarkson and S. Basu. Learning Techniques in Audiovisual Information Processing. 15th International Conference on Pattern Recognition Tutorial Session (ICPR 15), 2000.
161. T. Jaakkola, M. Meila and **T. Jebara**. Maximum Entropy Discrimination for Missing Data. In Workshop on Using Unlabeled Data for Supervised Learning in Neural Information Processing Systems 12 (NIPS), 1999.
162. **T. Jebara** and A. Pentland. Conditional vs Joint Likelihoods and Densities. Workshop on Combining Supervised and Unsupervised Learning in conjunction with Neural Information Processing Systems 11 (NIPS), 1998.

Patents

163. F.-H. Su, L. Sethumadhavan, G. E. Kaiser and **T. Jebara**. A GRAPH-BASED DYNAMIC CODE CLONE DETECTOR WITH LINK ANALYSIS. Provisional Filing 62/114,466; Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2015. PCT application number of PCT/US16/17145. CU15182 / 10065-513P01US PCT application for "CODE RELATIVES DETECTION".
164. **T. Jebara**. U.S. Patent Application No. 13/491,426 M11-115 SYSTEMS, DEVICES, AND METHODS FOR PARAMETER OPTIMIZATION, Internal Ref.: T4356-18503US01, 2014.

165. **T. Jebara**. *Adaptive anonymity via b-matching*, Provisional Filing IR CU14173. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2014.
166. **T. Jebara** and P. Shivaswamy. *High accuracy learning by boosting weak learners*, Provisional Filing IR CU12127. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2012.
167. **T. Jebara**, B. Shaw and B. Huang. *Learning user similarity from a network*, Provisional Filing IR CU12120. Assignee Name and Address: The Trustees of Columbia University in the City of New York, September, 2012.
168. **T. Jebara**. *A fast algorithm for probability models and conditional random fields for learning from data which may contain missing components*, Provisional Filing IR M11-115. Assignee Name and Address: The Trustees of Columbia University in the City of New York, July, 2011.
169. **T. Jebara** and B. Huang. *B-Matching Using Sufficient Selection Belief Propagation*, U.S. Provisional Patent Application Nos. 61/472,038. Assignee Name and Address: The Trustees of Columbia University in the City of New York, March, 2011.
170. **T. Jebara**. *System and Method for Maximum a Posteriori Estimation of Graphical Models Having Perfect Graphs*, U.S. Provisional Patent Application Nos. 61/180,063 and 61/181,997 and International Application No.: PCT/US2010/035665. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2010.
171. **T. Jebara** and B. Huang. *Belief Propagation for Generalized Matching*, U.S. Provisional Patent Application Nos. 12/864,438. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2010.
172. S.-F. Chang, J. Wang and **T. Jebara**. *Columbia TAG (Transductive Annotation by Graph) System*, U.S. Provisional Patent Application IR# M10-016. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2010.
173. S.-F. Chang, J. Wang and **T. Jebara**. U.S. Patent Appln. No. PCT/US09/069237 *System and Method for Annotating and Searching Media*. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2009.
174. **T. Jebara** and B. Huang. *A Distributed Belief Propagation Algorithm for Efficient and Exact Solutions of Generalized Matching Problems and Auctions*, U.S. Provisional Patent Application Nos. 61/023,767 and 61/029,206. Assignee Name and Address: The Trustees of Columbia University in the City of New York, 2008.
175. *Event Identification in Sensor Analytics*, Issued Patent 8,620,624. Assignee Name: Sense Networks, Inc., 2013.
176. *Comparing Spatial-Temporal Trails in Location Analytics*, Provisional Patent Application. Assignee Name: Sense Networks, Inc., 2008. Issued July 17, 2012 as Patent 8,224,766.
177. *Anomaly Detection in Sensor Analytics*, Provisional Patent Application. Assignee Name: Sense Networks, Inc., 2008.
178. *System and Method of Performing Location Analytics*, Provisional Patent Application. Assignee Name: Sense Networks, Inc., 2008.
179. **T. Jebara**. *Ordered Data Compression System and Methods* , United States Patent Publication Number 2005/0265618 A1, Assignee Name and Address: The Trustees of Columbia University in the City of New York. Serial No.: 11/132,078. Series Code: 11. Filed: May 18, 2005. U.S. Classification 382243000, International Classification G06K009/36; G06K009/00. Pub. No.: WO/2004/061702, International Application No.: PCT/US2003/041399, Publication Date: 22.07.2004, International Filing Date: 29.12.2003.

Technical Reports

180. K. Tang, N. Ruozzi, D. Belanger and **T. Jebara**. Bethe Learning of Conditional Random Fields via MAP Decoding, arXiv:1503.01228 Mar 2015.

181. F.X. Yu, S. Kumar, **T. Jebara** and S.-F. Chang. On Learning with Label Proportions, arXiv:1402.5902 24 Feb 2014.
182. A. Weller and **T. Jebara**. Approximating the Bethe partition function, arXiv:1401.0044v1 30 Dec 2013.
183. A. Weller and **T. Jebara**. Bethe Bound Propagation and Approximating the Global Optimum, arXiv:1301.0015 and Columbia University, Computer Science Technical Report CUCS-022-12, 2012.
184. B. Huang and **T. Jebara**. Approximating the Permanent with Belief Propagation, arXiv:0908.1769 and Columbia University, Computer Science Technical Report CUCS-062-08, 2009.
185. I.R. Kondor, G. Csanyi, S.E. Ahnert and **T. Jebara**. Multi Facet Learning in Hilbert Spaces. Columbia University, Computer Science Technical Report CUCS-054-05, 2005.
186. **T. Jebara** and P. Long. Tree Dependent Identically Distributed Learning. Columbia University, Computer Science Technical Report CUCS-050-05, 2005.
187. A. Howard and **T. Jebara**. Square Root Propagation. Columbia University, Computer Science Technical Report CUCS-040-05, 2005.

Theses

188. **T. Jebara**. Discriminative, Generative and Imitative Learning. PhD Thesis, Massachusetts Institute of Technology, 2001.
189. **T. Jebara**. Action-Reaction Learning: Analysis and Synthesis of Human Behaviour. Master's Thesis, Massachusetts Institute of Technology, 1998.
190. **T. Jebara**. 3D Pose Estimation and Normalization for Face Recognition. Bachelor's Thesis, McGill University, 1996.

Department of Defense Grants

- DARPA BAA-14-59-SIMPLEX-FP-024 (PI: Paninski, Co-PIs: Jebara, Blei, Yuste)
  Total grant $2,103,864, 2015-2018
  Deciphering the cortex: circuit inference from large-scale brain activity data
- DARPA GRAPHS N66001-15-2-4026 (PI: Jebara, Co-PIs: McKoewn, Yao, Hodson, Pacifico)
  Total grant $475,000, 2015
  A Bayesian Network Model of Financial, Social and News Streams Under Stress Conditions
  Subcontract with Bloomberg, LLC
- DHS Award N66001-09-C-0080 (PIs: Stolfo, Malkin, Jebara, Misra, Rubenstein, Bellovin)
  Initial grant allocated $310,000, 2011-2012
  Total Funding for Jebara $70,000, 2011-2012
  Privacy Preserving Sharing of Network Trace Data PHASE TWO
  Department of Homeland Security, Subcontract from BAE Systems
- DHS Award N66001-09-C-0080 (PIs: Stolfo, Malkin, Jebara, Misra, Rubenstein, Bellovin)
  Initial grant allocated $500,000, 2009-2010
  Optional grant extension $250,000, 2010-2011
  Total Funding for Jebara $125,000, 2009-2011
  Privacy Preserving Sharing of Network Trace Data PHASE ONE
  Department of Homeland Security, Subcontract from BAE Systems
- ONR Award N000140710507 (PI: Jebara), $120,000, 2007-2008
  Learning to Match Data from Heterogeneous Databases (Mod No: 07PR04918-00)
- CIA KDD Program Award (PI: Jebara), $219,000, 2006-2007
  Learning to Match People, Multimedia and Graphs via Permutation

- CIA KDD Challenge Award (PI: Jebara), $40,180, 2005
  Text and Author Identity as a Permutation Learning Problem
- CIA KDD Program Award (PI: Jebara), $171,124, 2005-2006
  Correspondence in Learning via Permutation Algorithms

National Science Foundation Grants

- NSF III-1526914 (PI: Jebara), $164,089, 2015-2018
  III: Small: Collaborative Research: Approximate Learning and Inference in Graphical Models
- NSF IIS-1451500 (PI: Jebara), $100,000, 2014-2015
  EAGER: New Optimization Methods for Machine Learning
- NSF CCF-1302269 (PI: Sethumadhavan, Co-PIs: Jebara and Kaiser), $400,654, 2013-2015
  SHF: Medium: Overcoming the Intuition Wall: Automatic Graphical Analysis of Programs to Discover and Program New Computer Architectures
- NSF REU-1117631 (PI: Jebara), $7,000, 2013
  RI: Small: Learning and Inference with Perfect Graphs
- NSF IGERT (PI: Hirschberg, Participant: Jebara), $3,299,651, 2012-2017
  IGERT: From Data to Solutions: A New PhD Program in Translational Data & Information
- NSF IIS-1117631 (PI: Jebara, co-PI: Chudnovsky), $449,417, 2011-2014
  RI: Small: Learning and Inference with Perfect Graphs
- NSF Career Award IIS-0347499 (PI: Jebara), $498,964, 2004-2009
  CAREER: Discriminative and Generative Machine Learning with Applications in Tracking and Gesture Recognition
- U. of Washington, NSF Sub-Contract on IIS-0093302 (PI: Jebara), $121,909, 2004-2006
  CAREER: Support Vector Methods for Functional Genomics
- NSF ITR CCR-0312690 (PI: Jebara), $240,215, 2003-2007
  ITR: Representation Learning: Transformations and Kernels for Collections of Tuples
- NSERC Canada Graduate Scholarship CGS (Declined), 1996-1998

Corporate Grants

- Comcast, Gift Grant (PIs: Zimmeck, Bellovin & Jebara), $5,000, 2015
  Comcast Research Grant - Measurement & Data Analysis
- IBM Faculty Award, Gift Grant (PI: Jebara), $20,000, 2013
  Majorization for Large-Scale Machine Learning
- Yahoo Faculty Research and Engagement Award, Gift Grant (PI: Jebara), $10,000, 2011
  Fast Algorithms for Conditional Random Fields with Hidden Data
- Google Research Awards Program, Gift Grant (PI: Jebara), $70,000, 2009
  NetTrailMix
- NYSTAR CAT Matching Funds (PI: Jebara), $20,000, 2008
  Modeling Human Activity from Location Data
- Sense Networks, Unrestricted Gift (PI: Jebara), $80,000, 2008
  Modeling Human Activity from Location Data
- MyProducer LLC, Unrestricted Gift (PI: Jebara), $32,000, 2008
- Microsoft Corporation Unrestricted Gift (PI: Jebara), $10,000, 2004
- AlphaStar Corporation Unrestricted Gift (PI: Jebara), $26,000, 2003

Internal Columbia Grants

- RISE: Inferring Spatial Heterogeneity in Marine Phytoplankton (PIs: Goes and Jebara, Co-PIs: Abernathy and Gomes).
  Award Amount: $160,000. Award Period: 08/01/15 - 07/31/17. Funding for Jebara $50,000.
- SEAS Summer Research Internship Program (PI: Jebara), $2,000, 2014
- SEAS Summer Research Internship Program (PI: Jebara), $2,000, 2014

Industrial Activities

- Andreessen Horowitz Roundtable, 2013, 2014, 2015.
- MagikEye, Founder and Advisor, 2015-.
- Ufora, Advisor, 2014-.
- Agolo, Advisor, 2012-.
- Evidation Health, Advisor, 2012-.
- Bookt (Acquired by RealPage NASDAQ: RP), Advisor, 2012-2014.
- Sense Networks (Acquired by yp.com), Founder and Chief Scientist, 2006-2011.

Academic Activities

- General Chair, 34th International Conference on Machine Learning, Sydney, 2017.
- Steering Committee, NYAS Machine Learning Symposium, 2006-present.
- Chair, Learning & Privacy with Incomplete Data & Weak Supervision Workshop, NIPS 2015.
- Chair, DARPA GRAPHS/SIMPLEX Workshop, New York, September 28, 2015.
- Program Chair, 31st International Conference on Machine Learning, Beijing, 2014.
- DIMACS, Member, 2014-present.
- Action Editor, Journal of Machine Learning Research, 2009-2013.
- Associate Editor, Transactions on Pattern Analysis & Machine Intelligence, 2010-2012.
- Editor, Machine Learning Journal, 2007-2011.
- Guest Editor, Neurocomputing Journal, ICDL Special Issue 2006.
- Editorial Board, Machine Learning Journal, 2004-present.
- Area Chair, Neural Information Processing Systems, 2008, 2010.
- Senior Program Committee, Uncertainty in Artificial Intelligence, 2010.
- Awards Committee, Nokia Mobile Data Challenge, research.nokia.com/mdc, 2012.
- Awards Committee, International Conference on Machine Learning, 2010.
- Scientific Advisory Board, Information and Decisions in Social Networks, 2010-present.
- Program Chair, International Conference on Development and Learning, 2004.
- Local Chair, International Conference on Development and Learning, 2002.
- Chair, Log-Linear Models Workshop (NIPS), 2012.
- Chair, Analyzing Graphs: Theory and Applications Workshop (NIPS), 2008.
- Chair, Sparse Optimization and Variable Selection Workshop (ICML), 2008.
- Chair, Workshop on Text Learning: Beyond Supervision (IJCA), 2001.
- Program Committee Member:
  - First International Workshop on Learning Tractable Probabilistic Models (LTPM), 2014.
  - Conference on Uncertainty in Artificial Intelligence, 2003, 2004, 2005, 2006, 2009, 2010.
  - Conference on Artificial Intelligence and Statistics, 2007, 2009.
  - International Conference on Machine Learning, 2003, 2004, 2005, 2006, 2007, 2008.
  - Conference on Computer Vision and Pattern Recognition, 2007.
  - Conference on Learning Theory, 2005.
  - International Conference on Computer Vision, 2003.

  - Workshop on Social Computing with Mobile Phones, 2009.
  - Beyond Patches Workshop, 2006.
  - Workshop on The Continuum from Labeled to Unlabeled Data, 2003.
  - Workshop on Probabilistic Graphical Models for Classification, 2003.
- National Science Foundation Panelist, 2004, 2005, 2006, 2006, 2008, 2012.
- DARPA Computer Science Futures Study Panelist, 2007.
- IEEE Autonomous Mental Development Technical Committee, 2004-Present.
- Member, IEEE.
- Member, ACM.

Popular Press and Media

- BBC Radio 4, In Business with Peter Day, May 14, 2015.
  http://www.bbc.co.uk/programmes/p02qtx5h
- BBC Radio 4, In Business with Peter Day, May 7, 2015.
  http://www.bbc.co.uk/programmes/b05sy264
- ComputerWorld, June 9, 2014.
  http://www.computerworld.com/s/article/9248948/Supercomputer_passes_Turing_Test_by_posing_as_a_teenager
- New York Times, May 31, 2014.
  http://bits.blogs.nytimes.com/2014/05/31/quantifying-privacy-a-week-of-location-data-may-be-unreasonable-search/
- Columbia Engineering Newsletter, April 28, 2014.
  http://engineering.columbia.edu/web/newsletter/files_engineeringnews/spring2014.pdf
- New York Times, January 6, 2014.
  http://dealbook.nytimes.com/2014/01/06/yp-a-mobile-ad-firm-buys-a-rival-sense-networks/
- NPR and WNYC News, June 7, 2013.
  http://www.wnyc.org/shows/newtechcity/blogs/new-tech-city-blog/2013/jun/06/verizon-call-logs-controversy-no-such-thing-too-much-information/
- National Academy of Engineering Press Release, June 27, 2013.
  http://www.nae.edu/Projects/MediaRoom/20095/69135/83545.aspx
- NYC Media Lab YouTube Interview, April, 2013.
  https://www.youtube.com/watch?v=awvJy7430ow
- Boston Globe, July 15, 2012.
  http://www.bostonglobe.com/business/2012/07/14/former-mit-borgs-still-back-wearable-technology/2EL5NgdbQ5VzjoBUGFZk4I/story.html
- Yahoo and Associated Press, May 18, 2012.
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- PR Newswire, April 11, 2012.
  http://www.prnewswire.com/news-releases/bookt-taps-big-data-expert-from-columbia-university-to-help-reshape-lodging-industry-147011365.html
- Wall Street Journal, April 22, 2011.
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- Le Monde, May 10, 2010.
  www.lemonde.fr/technologies/article/2010/05/10/le-telephone-qui-en-savait-trop_1349089_651865.html
- New York Times, April 3, 2010.
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- New York Times, December 8, 2009.
  www.nytimes.com/external/readwriteweb/2009/12/08/08readwriteweb-top-10-internet-of-things-products-of-2009-74048.html
- New York Times (Science Section Front Page), February 17, 2009.
  www.nytimes.com/2009/02/17/science/17map.html
- New York Times (Business Section), June 22, 2008.
  www.nytimes.com/2008/06/22/technology/22proto.html?ref=technology
- BusinessWeek, November 12, 2009.
  images.businessweek.com/ss/09/11/1112_most_intriguing_companies/22.htm
- Business Week, February 26, 2009.
  www.businessweek.com/print/magazine/content/09_10/b4122042889229.htm
- Washington Post, June 2008.
  www.washingtonpost.com/wp-dyn/content/article/2008/06/09/AR2008060900564.html
- IEEE Spectrum, February, 2009.
  www.spectrum.ieee.org/feb09/7347
- Esquire Magazine, December, 2008.
  www.esquire.com/features/best-and-brightest-2008/best-new-cartographers-1208
- MIT Technology Review, March 13, 2009.
  www.technologyreview.com/communications/22286/?a=f
  www.technologyreview.com/video/?vid=275
- MIT Technology Insider, August, 2008.
  www.sensenetworks.com/press/mit-tech-insider.pdf
- Reuters, November 17, 2009.
  www.reuters.com/article/fundsFundsNews/idUSN176498420091117
- CNN, November 2, 2009.
  www.cnn.com/2009/TECH/11/02/data.viz/index.html
- New York Academy of Sciences, Media Center, September 25, 2009.
  www.nyas.org/jebara-interview
- Tech Crunch, June 30, 2009.
  www.techcrunch.com/2009/06/30/6-million-for-sense-networks-makes-sense/
- SpringWise, Top 10 Telecom and Mobile Ideas of 2008, December, 2008.
  springwise.com/telecom_mobile/2008_this_years_top_10_telecom/
- Laptop Rockers, October 12, 2008.
  www.laptoprockers.eu/technology/p3/citysense-live-nightlife-activity
- Digg, June, 2008.
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- Slash Dot, June, 2008.
  mobile.slashdot.org/mobile/08/06/29/1854224.shtml
- ZD Net, June, 2008.
  blogs.zdnet.com/emergingtech/?p=965
- ACM Tech News, June, 2008.
  technews.acm.org/#367626
- Boston Globe, 2008.
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- Columbia Magazine, Summer, 2008.
  www.alumni.columbia.edu/magazine
- Columbia News, June 20, 2008.
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- PhysOrg.Com, June 20, 2008.
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- The Tech Herald, June 2008.
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- Information Week, June 2008.
  www.informationweek.com/news/internet/ebusiness/showArticle.jhtml?articleID=208402912
- Market Wire, June 2008.
  www.marketwire.com/mw/release.do?id=866041
- Pravda, June 2008.
  newsfromrussia.com/news/science/11-06-2008/105487-CitySense-0
- LBS Zone, June 2008.
  www.lbszone.com/content/view/3439/2/
- Tech Crunch, June 2008.
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- RCR News, June 2008.
  www.rcrnews.com/apps/pbcs.dll/article?AID=/20080609/SUB/770589548/1012
- O'Reilly Radar, June 2008.
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  www.apa.org/monitor/mar07/moveover.html
- AAAI AI Alert, November 2002.
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- Wired, June 2002.
  www.wired.com/gadgets/miscellaneous/news/2002/06/52990
- Webwereld, March 2002.
  www.webwereld.nl/articles/179/drager
- Slash Dot, 2002.
  slashdot.org/article.pl?sid=02/06/15/1913227
- Inside Pool, 2002.
- McGill News, before 2000.
  news-archive.mcgill.ca/s99/jebara.htm
- Newsweek, before 2000.
- Scientific American, before 2000.
- Science Photo Library, before 2000.
- Television: Elektrischer Reporter, Mobile Communities, April 16, 2009.
  www.youtube.com/watch?v=s-C-PqbQcG8
- Television: ABC News, World News Now, March 3, 2003.
- Television: New York One News, 2002.
- Television: Tech TV TechLive News, 2002.
- Television: ABC News, World News Tonight, 1998.
- Television: ABC News, Nightline, 1997.
- Television: BBC Tomorrow's World.
- Television: Millenial Mark News.
- Television: RTL Television (German).

- Television: NHK Documentary (Japanese).
- Radio: ZIP FM Radio, 2002 (Japanese).

Exhibits and Demonstrations

- Heinz-Nixdorf Paderborn Podium - Wearables Exhibit of DyPERS, 1999.
- Nicograph - Wearables Tokyo Exhibit of DyPERS, 1998.
- SigGraph - Electric Garden - Toco the Toucan, 1997.

Invited Talks

1. Deep Learning Summit, Boston (May 12-13, 2016)
2. Renaissance Technologies
3. Cubist Systematic Strategies (December 1, 2015)
4. INFORMS Annual Meeting 2015, Philadelphia (November 2, 2015)
5. Invited Lecture, Machine Learning Seminar, Georgia Tech (October 14, 2015)
6. Keynote, Translational Data Analytics Fall Forum, Ohio State (October 8, 2015)
7. Stanford University, Machine Learning Lunch (September 23, 2015)
8. SAHD Data Workshop, Duke University, Durham (July 27-29, 2015)
9. Tsinghua University CS Seminar, Host: J. Zhu (June 18-19, 2015)
10. Intl. Conf. on Intelligence Science and Big Data Engineering, Suzhou (June 15, 2015)
11. McGill University, Seminar (Host: D. Precup and T. Arbel) (May 25, 2015)
12. University of Washington, ML Seminar (Host: P. Domingos) (May 6, 2015)
13. Amazon Faculty Day (May 4-5, 2015)
14. NYC Media Lab PersonalizationPalooza (February 26, 2015)
15. Temple University CIS Department, Host: Y. Guo (February 17, 2015)
16. Student Seminar of Columbia's Statistics Department (February 4, 2015)
17. CUNY Graduate Center Applied Algebra Colloquium (November 21, 2014)
18. Earth Institute Alumni Fund-Raising Event (September 22, 2014)
19. China Computer Federation, Advanced Disciplines Lectures CCFADL (June 27-29, 2014)
20. Divergence Methods for Probabilistic Inference, ICML Workshop (June 26, 2014)
21. First International Workshop on Learning Tractable Probabilistic Models (June 26, 2014)
22. Chalmers University, Host: D. Dubhashi (May 7, 2014)
23. Microsoft Research NYC Data Science Seminar Series (April 24, 2014)
24. Tokyo Institute of Technology, Host: M. Sugiyama (April 11, 2014)
25. Microsoft Research Asia, Host: T. Liu (April 10, 2014)
26. Tsinghua University, Host: J. Zhu (April 1, 2014)
27. Columbia University IGERT Distinguished Speaker Series (March 28, 2014)
28. Simons Foundation, Host: A. Millis (October 24, 2013)
29. Purdue University, ML Seminar, Host: S.V.N. Vishwanathan (October 1, 2013)
30. National Academy of Engineering (NAE) Symposium (September 19-21, 2013)
31. Duke University, Sensing and Analysis of High-Dimensional Data Workshop (July 23-25, 2013)
32. NYU CUSP Social Media and Peer Networks Workshop (July 10-12, 2013)
33. JP Morgan Data Science Seminar, Host: R. Madhavan (June 12, 2013)
34. UC San Diego, Information Theory and Applications Workshop (February 12, 2013)
35. Columbia Statistics Seminar, New York NY (January 30, 2013)
36. Workshop on Information in Networks (WIN), New York NY (September 28-29, 2012)
37. Climate Informatics 2012, Boulder CO, (September 20, 2012)

38. NYC Media Lab Research Summit, Hearst, New York NY (September 12, 2012)
39. Data Science Summit, Vegas NV (May 22-23, 2012)
40. University of Minnesota, IMA Workshop on User-Centered Modeling (May 7-11, 2012)
41. IBM Watson in Yorktown, Host: D. Kanevsky (April 6, 2012)
42. Re:Working Conference (February 24, 2012)
43. Social Media Week, Applying Big Data Analytics to Social Media Data (February 14, 2012)
44. Duke University, Sensing and Analysis of High-Dimensional Data Workshop (July 26-28, 2011)
45. Cornell University, AI Seminar, Host: T. Joachims (April 29, 2011)
46. Social Media Week, Science & Technology Hub, Google NY (February 8, 2011).
47. Center for Information and Systems Engineering, Boston University (November 5, 2010)
48. GeoWebForum.com Summit, Brooklyn, New York (November 4, 2010)
49. Engineering Entrepreneur Series, Columbia University (November 3, 2010)
50. Workshop on Information in Networks (WIN), New York (September 24-25, 2010)
51. Tractability Workshop 2010, Cambridge, England (July 5-6, 2010)
52. The Location Business Summit, Amsterdam (April 29, 2010)
53. The Learning Workshop, Snowbird (April 7, 2010)
54. BRITE '10 Conference, Columbia Business School (April 1, 2010)
55. Where 2.0, San Jose (March 31, 2010)
56. UC San Diego, Information Theory and Applications Workshop (February 4, 2010)
57. Privacy 2.0, International Summit (February 3, 2010)
58. Panelist, The Future of Space & Time, New York (February 3, 2010)
59. Yale University, Probabilistic Networks Group, Host: S. Tatikonda (January 29, 2010)
60. NIPS Workshop: The Generative & Discriminative Learning Interface (December 12, 2009)
61. Wireless Communications Alliance LBS SIG, Nokia Research Center (December 3, 2009)
62. Palo Alto Research Center PARC Seminar Series, Host: B. Begole (December 3, 2009)
63. Supernova Conference, San Francisco (December 2, 2009)
64. Columbia University Discrete Math Seminar, Host: M. Chudnovsky (November 24, 2009)
65. IBM Smarter Planet Joint University Exchange Day (November 20, 2009)
66. Web 2.0 Expo, New York (November 18, 2009)
67. Intel Capital CEO Summit, Huntington Beach, CA (November 17, 2009)
68. GIS 3.0 Conference, NCDP Columbia University (November 16, 2009)
69. Massachusetts Institute of Technology, Media Lab, Host: D. Roy (November 12, 2009)
70. Massachusetts Institute of Technology, CSAIL, Host: B. Freeman (November 12, 2009)
71. Keynote, IEEE International Conference on Tools with AI, ICTAI (November 5, 2009)
72. Johns Hopkins University, Center for Imaging Science, Host: R. Vidal (November 3, 2009)
73. Emerging Communications Conference, Amsterdam (October 30, 2009)
74. Radbound University of Nijmegen, SNN, Netherlands, Host. B. Kappen (October 29, 2009)
75. Helsinki Institute for Information Technology, Host: P. Myllymaki (October 23, 2009)
76. Nokia/Intel Capital Technology Day, Finland (October 22, 2009)
77. IEEE VisWeek Workshop, Geometric Aspects of ML & Visual Analytics (October 11, 2009)
78. KTH Royal Institute of Technology, CV Lab, Host: S. Carlsson, Stockholm (October 2, 2009)
79. Keynote, MetaPlaces Conference, San Francisco (September 22, 2009)
80. Data Visualization Seminar, Columbia University (September 21, 2009)
81. Panelist, International Association of Transportation Regulators, IATR (September 14, 2009)
82. Sino-USA Summer School in VLPR, Hosts: L. Fei-Fei & J. Shi (July 20-26 2009)
83. EPFL Summer Research Institute, Hosts: M. Vetterli & P. Thiran, (June 23-30, 2009)

84. University of Chicago, Machine Learning Summer School, (June 10, 2009)
85. Stevens Institute of Technology, CS Seminar, Host: P. Mordohai (April 27, 2009)
86. Studying Society in a Digital World Conference, Princeton (April 23, 2009)
87. Stanford University, 2nd Annual POMI Workshop (April 14, 2009)
88. U. of Massachusetts Amherst, ML Seminar, Host: A. McCallum (March 25, 2009)
89. UC Irvine Institute for Mathematical Behavioral Sciences Conference (March 14, 2009)
90. ETech O'Reilly Conference, San Jose (March 11, 2009)
91. UC Berkeley CIS Series, Hosts: P. Bartlett & C. Sutton (March 5, 2009)
92. Keynote, Emerging Communications Conference, San Francisco (March 4, 2009)
93. Carnegie Mellon University, MLD-Google Seminar, Host: E. Xing (February 25, 2009)
94. UC San Diego, Information Theory and Applications Workshop (February 11, 2009)
95. New York University, Colloquium Speaker, Host: C. Bregler (January 30, 2009)
96. NIPS Workshop on Stochastic Models of Behaviour (December 13, 2008)
97. Keynote, SEAS Alumni Reunion, Columbia University (December 2, 2008)
98. Multi-Manifold Data Modeling and Applications, U. of Minnesota (October 29, 2008)
99. NYAS Machine Learning Symposium (October 10, 2008)
100. Google, Mountain View, Host: P. Long (June 9, 2008)
101. New York University CBLL Seminar (May 1, 2008)
102. ONR PI Workshop at Naval Postgraduate School (April 7, 2008)
103. Google, New York, Host: S. Kumar (March 19, 2008)
104. Princeton University PICASSO Successes of Computational Science Series (February 11, 2008)
105. UC San Diego, Information Theory and Applications Workshop (January 28, 2008)
106. Erich Mindich Conference on Computational Social Science, Harvard (December 7, 2007)
107. SIAM Mathematics Series, Rensselaer Polytechnic Institute (November 5, 2007)
108. BIRS Workshop: Math. Prog. in Data Mining & Machine Learning (January 15, 2007)
109. NSF Knowledge Discovery & Dissemination (KDD) Conference (October 3, 2006)
110. AMS-IMS-SIAM Summer Conference on Machine and Statistical Learning (June 23, 2006)
111. Rensselaer Polytechnic Institute CS Colloquium, Host: B. Yener (March 30, 2006)
112. Columbia University Statistics Department, Host. L. Paninski (February 13, 2006)
113. NSF Knowledge Discovery & Dissemination (KDD) Conference (November 1, 2005)
114. NSF Knowledge Discovery & Dissemination (KDD) Challenge (September 28, 2005)
115. University College London, Gatsby Unit, Host Z. Ghahramani (July 14, 2005)
116. Keynote, Machine Learning & Multimodal Interfaces (MLMI), Edinburgh (July 11, 2005)
117. University of Chicago, Toyota Technology Institute, Host J. Langford (June 6, 2005)
118. CIAR Neural Computation & Adaptive Perception Workshop (April 26, 2005)
119. Johns Hopkins University CLSP Fall Seminar Series, Host I. Shafran (November 9, 2004)
120. NSF Knowledge Discovery & Dissemination (KDD) Conference (September 21, 2004)
121. University of Washington, CSEE Talk, Host D. Fox (May 19, 2004)
122. Microsoft Research, Redmond, Host N. Jojic (May 10, 2004)
123. Rutgers Center for Discrete Mathematics & Theoretical Computer Science (May 7, 2004)
124. Rutgers Center for Computational Biomedicine Imaging & Modeling (May 7, 2004)
125. Brooklyn Polytechnic, Computer Science Spring Seminar Series (April 2004)
126. ETH Zurich, Computer Science, Graphics Seminar Talk (March 2004)
127. NSF Knowledge Discovery & Dissemination (KDD) Conference (November 2003)
128. Columbia University CAT Technology Forum (September 2003)
129. AT&T Research, Florham Park (July 2003)

130. AMS-IMS-SIAM Conference on Machine Learning, Statistics & Discovery (June 2003)
131. Microsoft Research, Redmond (May 2003)
132. IBM Watson Research, Hawthorne (December 2002)
133. Columbia University, Applied Physics and Mathematics (November 2002)
134. NASA and ONR Workshop on Combating Uncertainty with Fusion (April 2002)
135. The Learning Workshop, Snowbird (April 2002)
136. GE Corporate Research & Development (February 2002)
137. Microsoft Research, Redmond (May 2001)
138. AT&T Research, Middletown (May 2001)
139. IBM Almaden Research (May 2001)
140. University of Washington, Computer Science (April 2001)
141. Stanford University, Computer Science (April 2001)
142. Columbia University, Computer Science (April 2001)
143. Carnegie Mellon University, CALD (April 2001)
144. The Learning Workshop, Snowbird (April 2001)
145. McGill University, Electrical Engineering (April 2001)
146. WhizBang Research Labs (March 2001)
147. University College London, Gatsby Unit (January 2001)
148. BBN Technologies, Verizon (December 2000)

Invited Conferences as Attendee

1. DIMACS Workshop Bar Code of Life, Host: R. Jornsten (September 26, 2005)
2. Google Faculty Summit (August 5, 2005)

Reviewing

- Recommender, MacArthur Foundation Fellowship Awards
- Reviewer, Journal of Machine Learning Research
- Reviewer, Journal of Artificial Intelligence Research
- Reviewer, Journal of Intelligent Information Systems
- Reviewer, Journal of Optical Society of America A
- Reviewer, IEEE Pattern Analysis and Machine Intelligence
- Reviewer, IEEE Signal Processing Letters
- Reviewer, IEEE Transactions on Neural Networks
- Reviewer, IEEE Transactions on Robotics and Automation
- Reviewer, IEEE Transactions on Systems, Man and Cybernetics
- Reviewer, IEEE Transactions on Image Processing
- Reviewer, Machine Learning Journal
- Reviewer, Image and Vision Computing Journal
- Reviewer, SIAM Review
- Reviewer, SIAM Journal on Discrete Mathematics
- Reviewer, Computer Vision and Image Understanding
- Reviewer, International Journal of Computer Vision
- Reviewer, International Conference on Machine Learning
- Reviewer, International Conference on Computer Vision
- Reviewer, International Conference on Development and Learning
- Reviewer, International Joint Conference on Artificial Intelligence

- Reviewer, Neural Information Processing Systems (00, 01, 02, 03, 04, 05, 07, 08, 09, 10)
- Reviewer, Conference on Uncertainty in Artificial Intelligence
- Reviewer, Computer Vision and Pattern Recognition Conference
- Reviewer, International Symposium on Mixed and Augmented Reality
- Reviewer, European Conference on Machine Learning
- Reviewer, American Mathematical Society NSA Grant Proposals
- Reviewer, SIGGRAPH Conference
- Reviewer for various workshops

Teaching

- Course: Machine Learning 4771 (Fall 2015)
  Enrollment: approximately 160. Evaluation: 4.27, 3.95, 4.22, 4.00, 4.20, 4.19, 4.03, 4.08
- Course: Machine Learning 4772 (Spring 2015)
  Enrollment: approximately 90. Evaluation: 4.14, 4.31, 4.41, 4.21, 4.59, 4.34, 4.59, 4.36
- Course: Machine Learning 4771 (Fall 2014)
  Enrollment: approximately 160. Evaluation: 4.20, 4.14, 3.96, 4.17, 4.39, 4.29, 4.19, 4.24
- Course: Machine Learning 4771 (Fall 2013)
  Enrollment: approximately 150. Evaluation: 4.19, 4.09, 4.06, 4.33, 4.34, 4.18, 4.12, 4.16
- Course: Advanced Machine Learning 4772 (Spring 2013)
  Enrollment: approximately 50. Evaluation: 4.17, 4.10, 3.90, 4.20, 4.40, 4.30, 4.33, 4.37
- Course: Machine Learning 4771 (Fall 2012)
  Enrollment: approximately 130. Evaluation: 3.84, 3.73, 3.85, 3.77, 3.82, 3.70, 3.84, 3.73
- Course: Machine Learning 4771 (Spring 2011)
  Enrollment: approximately 150. Evaluation: 3.90, 3.36, 3.54, 3.63, 3.69, 3.60, 3.75, 3.64
- Course: Advanced Machine Learning 4772 (Fall 2010)
  Enrollment: approximately 40. Evaluation: 4.48, 4.38, 4.10, 4.38, 4.24, 4.07, 4.00, 4.34
- Course: Machine Learning 4771 (Spring 2010)
  Enrollment: approximately 80. Evaluation: 4.12, 4.02, 3.93, 4.09, 4.18, 3.96, 4.16, 4.18
- Course: Advanced Machine Learning 4772 (Fall 2009)
  Enrollment: approximately 40. Evaluation: 4.19, 4.10, 3.86, 3.95, 3.86, 4.10, 4.29, 4.10
- Course: Machine Learning 4771 (Spring 2009)
  Enrollment: approximately 110. Evaluation: 4.00, 3.41, 3.73, 3.71, 3.76, 3.69, 3.77, 3.61
- Course: Advanced Machine Learning 4772 (Fall 2008)
  Enrollment: approximately 30. Evaluation: 4.21, 3.71, 4.00, 3.93, 3.71, 4.00, 3.93, 3.86
- Course: Advanced Machine Learning 4772 (Fall 2007)
  Enrollment: approximately 30. Evaluation: 4.63, 4.38, 4.19, 4.50, 4.31, 4.25, 4.38, 4.50
- Course: Machine Learning 4771 (Spring 2007)
  Enrollment: approximately 70. Evaluation: 4.18, 3.96, 3.84, 4.04, 4.02, 3.98, 4.02, 3.96
- Course: Learning and Empirical Inference 6998-4 (Spring 2007)
  (taught jointly with V. Vapnik, I. Rish and G. Tesauro)
  Enrollment: approximately 15. Evaluation: 3.63, 4.25, 4.25, 4.25, 4.38, 4.13, 4.25, 4.25
- Course: Advanced Machine Learning 6772 (Fall 2006)
  Enrollment: approximately 25. Evaluation: 4.62, 4.25, 4.17, 4.15, 4.54, 4.15, 4.60, 4.42
- Course: Machine Learning 4771 (Spring 2006)
  Enrollment: approximately 60. Evaluation: 3.83, 3.28, 3.64, 3.56, 3.64, 3.56, 3.56, 3.56
- Course: Advanced Machine Learning 6772 (Fall 2005)
  Enrollment: approximately 20. Evaluation: 4.62, 4.31, 4.13, 4.50, 4.19, 3.93, 4.00, 4.50

- Course: Machine Learning 4771 (Spring 2005)
  Enrollment: approximately 40. Evaluation: 4.29, 3.86, 3.90, 3.90, 4.05, 3.90, 4.24, 3.86
  Dean's Excellent Teachers List
- Course: Advanced Machine Learning 4995 (Fall 2004)
  Enrollment: approximately 30. Evaluation: 4.61, 4.33, 4.50, 4.47, 4.29, 4.29, 4.35, 4.50
  Dean's Excellent Teachers List
- Course: Machine Learning 4771 (Spring 2004)
  Enrollment: approximately 60. Evaluation: Above 4 on average
  Dean's Excellent Teachers List
- Course: Advanced Machine Learning 6772 (Fall 2003)
  Enrollment: approximately 20. Evaluation: Above 4 on average.
  Dean's Excellent Teachers List
- Course: Machine Learning 4771 (Spring 2003)
  Enrollment: approximately 40. Evaluation: Above 4 on average.
- Course: Computer Organization 3824 (Fall 2002)
  Enrollment: approximately 80. Evaluation: Above 4 on average.
- Course: Advanced Machine Learning 6998-01 (Spring 2002)
  Enrollment: approximately 30. Evaluation: Above 4 on average.

Current Students and Postdocs

- Ekaterina Taralova (Columbia PostDoc), joint with R. Yuste
- Yan Yan (Columbia PostDoc), joint with J. Goes and R. Abernathy
- Kui Tang (Columbia PhD on Fellowship[1]), joint with D. Blei
- Da Tang (Columbia PhD on GRA)
- Henrique Spyra-Gubert (Columbia MS on Fellowship)
- Rahsmi Tonge (Columbia MS on GRA)
- Anthony Alvarez (Columbia MS on Fellowship)
- Srikar Varadaraj (Columbia Undergrad on Fellowship)

Visiting Students

- Fredrik Johansson, Chalmers University, PhD, 2015
- Gauthier Gidel, Ecole Normale Superieure Paris, MS, 2015
- Maximilien Danisch, Ecole Normale Superieure Cachan, MS, 2012

Former Students

- Adrian Weller, PhD, now PostDoc at Cambridge University
- Anna Choromanska, PhD, joint with C. Monteleoni and S.-F. Chang, now Postdoc at NYU
- Hyungtae Kim, MS, now at Google ATAP
- Krzysztof Choromanski, PhD, joint with M. Chudnovsky, now at Google
- Bert Huang, PhD, joint with A. Salleb-Aouissi, now **Assistant Professor** at Virginia Tech
- Blake Shaw, PhD, now Data Scientist at Foursquare
- Yingbo Song, PhD, joint with S. Stolfo, now Researcher at BAE Systems
- Pannaga Shivaswamy, PhD, now Senior Researcher at LinkedIn
- Andrew Howard, PhD, now at Howard Vision Technologies
- Risi Kondor, PhD, now **Assistant Professor** at University of Chicago

[1] 2014 Computing Research Association's Outstanding Undergraduate Researcher Award, Runner-Up.

- Darrin Lewis, PhD, joint with W. Noble, now Postdoc at Cold Spring Harbor
- Katherine Heller, MS, now **Assistant Professor** at Duke University
- Vlad Shchogolev, MS, now at Google
- Ben Strum, MS, now CTO at Bookt

Former Postdocs

- Nicholas Ruozzi, now **Assistant Professor** at U.T. Dallas
- Delbert Dueck, now Research SDE at Microsoft - Bing
- Stuart Andrews, now Associate Research Scientist at Columbia University Medical Center

PhDs Supervised

- Adrian Weller, *Methods for Inference in Graphical Models* (May 27, 2014)
  External Examiners: D. Sontag (NYU) and A. Globerson (Hebrew University)
- Anna Choromanska, *Selected Machine Learning Reductions* (February 2014)
  External Examiners: J. Langford (Microsoft) and D. Kanevsky (Google)
- Yingbo Song, *A Behavior-based Approach Towards Statistics-Preserving Network Trace Anonymization* (January 2012)
  External Examiner: F. Monrose (University of North Carolina)
- Bert Huang, *Learning with Degree-Based Subgraph Estimation* (July 2011)
  External Examiner: D. Shah (MIT)
- Blake Shaw, *Graph Embedding and Nonlinear Dimensionality Reduction*(July 2011)
  External Examiner: K. Weinberger (Washington State University)
- Pannaga Shivaswamy, *Large Relative Margin and Applications* (August 2010)
  External Examiners: T. Joachims (Cornell University) & V. Vapnik (NEC/Columbia)
- Andrew Howard, *Large Margin Transformation Learning* (February 2009)
  External Examiner: M. Mohri (New York University)
- Risi Kondor, *Group Theoretical Methods in Machine Learning* (August 2007)
  External Examiner: Z. Ghahramani (Cambridge University)
- Darrin Lewis, *Combining Kernels for Classification*, (May 2006)
  External Examiner: W. Noble (University of Washington)

University Service

- Chair, Center on the Foundations of Data Science, IDSE, 2012-present.
- Columbia CS Master's in Machine Learning (Founding) Advisor, 2004-present.
- Chair, Visibility Committee, 2015-present.
- Assignment and Scheduling Committee, 2014-present.
- Columbia Presidential Task Force on Precision Medicine, 2014-present.
- Chair, Space Committee, 2014-2015.
- Chair, Outreach Committee, 2012-2015.
- Columbia Presidential Task Force on Data Science, 2014.
- Columbia Presidential Task Force on New Scientific Advances, Genomics & Data, 2014.
- Presentation to the President on National Security and Data, 2014.
- Presentation to the Columbia Board of Trustees, 2013.
- Advisor, University Development and Alumni Relations, 2013.
- MS Admissions Reviewer, 2012-2013.
- Assignment and Scheduling Committee, 2012-2013.

- Faculty Recruiting Committee, 2012-2013.
- Member, GlobalU Thinking Group, 2012-2013.
- Presentation to the Columbia Board of Trustees, 2011.
- Chair, Newsletter Committee, 2010-2011.
- MS Admissions Committee, 2006-present.
- PhD Committee, 2006-present.
- Visibility Committee, 2006-present.
- Student Award Committee, 2009-present.
- Chair, MS Admissions Committee, 2007-2008.
- Columbia Center for Computational Learning Systems, Advisory Committee, 2003-2007.
- Chair, Columbia CS Distinguished Lecture Series, 2002-2006.
- Faculty Recruiting Committee, 2002-2006.
- SEAS Undergraduate Advisor, 2002-2006.
- PhD Recruiting Committee, 2001-2005.

Doctoral Thesis Committees

- Felix Xinnan Yu, *Scalable Machine Learning for Visual Data* (Columbia EE, May 15, 2015)
- Adrian Weller, *Methods for Inference in Graphical Models* (Columbia CS, May 27, 2014)
- Vinay Jethava, *Integrative analysis of dynamic networks* (Chalmers University, May 7, 2014)
- Anna Choromanska, *Selected Machine Learning Reductions* (Columbia EE, February 26, 2014)
- Berk Kapicioglu, *Applications of Machine Learning to Location Data* (Princeton CS, February 22, 2012)
- Yingbo Song, *A Behavior-based Approach Towards Statistics-Preserving Network Trace Anonymization* (Columbia CS, January 27, 2012)
- Novi Quadrianto, *Learning for the Internet: Kernel Embeddings and Optimisation* (Australian National University, November 2011)
- Bert Huang, *Learning with Degree-Based Subgraph Estimation* (Columbia CS, July 29, 2011)
- Shawn E. Simpson, *Self-controlled methods for postmarketing drug safety surveillance in large-scale longitudinal data* (Columbia Stats, July 29, 2011)
- Blake Shaw, *Graph Embedding and Nonlinear Dimensionality Reduction* (Columbia CS, July 25, 2011)
- Neeraj Kumar, *Describable Visual Attributes for Face Images* (Columbia CS, July 21, 2011)
- Arezu Moghadam, *Application Platforms, Routing Algorithms and Mobility Behavior in Mobile Disruption-Tolerant Networks* (Columbia CS, May 13, 2011)
- Jun Wang, *Semi-Supervised Learning for Scalable and Robust Visual Search* (Columbia EE, February 2011)
- Pannaga Shivaswamy, *Large Relative Margin and Applications* (Columbia CS, August 2010)
- Carlos Lima, *Hierarchical Bayesian and Machine Learning Models for Multiscale Hydroclimatic Analysis and Prediction for Brazil* (Columbia Earth and Environmental, April 2009)
- Andrew Howard, *Large Margin Transformation Learning* (Columbia CS, February 2009)
- Anshul Kundaje, *Predictive Models of Gene Regulation* (Columbia CS, August 2008)
- Hassan Malik, *Efficient Algorithms for Clustering and Classifying High Dimensional Data using Interesting Patterns*, (Columbia CS, November 2007)
- Risi Kondor, *Group Theoretical Methods in Machine Learning* (Columbia CS, August 2007)
- Henry Bigelow, *Statistical Analysis and Prediction of Membrane Proteins using Bayesian Networks* (Columbia Biochemistry and Molecular Biophysics, April 2007)

- Rui Kuang, *Inferring Protein Structure with Discriminative Learning and Network Diffusion* (Columbia CS, August 2006)
- German Creamer, *Using Boosting for Automated Trading and Planning* (Columbia CS, June 2006)
- Darrin Lewis, *Combining Kernels for Classification* (Columbia CS, May 2006)
- Sinem Guven, *Authoring and Presenting Situated Media in Augmented and Virtual Reality* (Columbia CS, April 2006)
- Jouni Kerman, *An Integrated Framework for Bayesian Graphical Modeling, Inference and Prediction* (Columbia Statistics, April 2006)
- Dong-Qing Zhang, *Statistical Part-based Model for Object/Scene Detection* (Columbia EE, September 2005)
- Lexing Xie, *Unsupervised Pattern Discovery for Multimedia Sequences* (Columbia EE, August 2005)
- Manuel Reyes, *Statistical Graphical Models for Scene Analysis, Source Separtion and Other Audio Applications* (Columbia EE, June 2005)
- Simon Lok, *Automated Layout of Information Presentations* (Columbia CS, April 2005)
- Yan Liu, *Feature Selection in Large Dataset Processing, Especially in the Video Domain* (Columbia CS, April 2005)
- Pablo Duboue, *Indirect Supervised Learning of Strategic Generation Logic* (Columbia CS, January 2005)
- Chris Pal, *Probability Models for Information Processing and Machine Perception* (University of Toronto, December 2004)
- Tiecheng Liu, *Semantic Summarization and Indexing of Extended Videos, with Application to Instructional Videos* (Columbia CS, July 2003)
- Efstathios Hadjidemetriou, *Use of Histograms for Recognition* (Columbia CS, September 2002)
- Eleazar Eskin, *Sparse Sequence Modeling with Applications to Computational Biology and Intrusion Detection* (Columbia CS, April 2002)

Doctoral Proposal and Examination Committees

- Fang-hsiang Su, *Domain Behavior Analysis of Software Using Code Relative Detection* (Candidacy Exam, Columbia CS, May 11, 2015).
- Chris Riederer, *Value and risks of mobile data sets* (Candidacy Exam, Columbia CS, April 23, 2015).
- Sebastian Zimmeck, *Privacy Protection for Machine Learning Applications* (Candidacy Exam, Columbia CS, April 13, 2015).
- Thomas Berg, *Part-Based Methods for Fine-Grained Visual Categorization* (Proposal, Columbia CS, August 7, 2014).
- Anna Choromanska, *Large Scale Machine Learning* (Proposal, Columbia EE, October 31, 2013).
- Adrian Weller, *Graphical Models* (Candidacy and Proposal, Columbia CS, September 26, 2013).
- Yingbo Song, *Anonymity and Privacy in Network Traces* (Proposal, Columbia CS, April 28, 2011).
- Neeraj Kumar, *Describable Visual Attributes for Face Search and Recognition* (Proposal, Columbia CS, December 2010).
- Bert Huang, *Learning with Degree-Based Subgraph Estimation* (Proposal, Columbia CS, April, 2010).

- Blake Shaw, *Graph Embedding and Nonlinear Dimensionality Reduction* (Proposal, Columbia CS, April, 2010).
- Yingbo Song, *Anonymity and Privacy in Network Traces* (Candidacy Exam, Columbia CS, January, 2010).
- Pannaga Shivaswamy, *Relative Margin* (Proposal, Columbia CS, April 2009).
- Neeraj Kumar, *Recognition and Search in Large Databases of Images* (Candidacy Exam, Columbia CS, March 2009).
- Arezu Moghadam, *Application platform, data routing and behavior modeling in mobile disruption-tolerant networks* (Proposal, Columbia CS, January 2009).
- Blake Shaw, *Spectral Methods for Graphs and High Dimensional Data* (Candidacy Exam, September 2008).
- Bert Huang, *Maximum Entropy, Belief Propagation and Matchings* (Candidacy Exam, July 2008).
- Andrew Howard, *Learning Mixtures of Transformations for Classification* (Proposal, Columbia CS, February 2008)
- Pannaga Shivaswamy, *Topics in Kernel Methods* (Candidacy Exam, Columbia CS, November 2007)
- Carlos Lima, *Hydroclimatic Forecasting to Improve Hydropower Reliability for Brazil* (Proposal, Columbia Earth and Environmental, November 2007)
- Drexel Hallaway, *FlyingFrames: Transforming a Static Optical Metrology System to Accomplish Dynamic Motion Tracking for Augmented Reality* (Proposal, Columbia CS, May 2007)
- Mitchell Morris, *Feature Selection for Video Recognition using Support Vector Machines* (Candidacy Exam, Columbia CS, May 2007)
- Sean White, *Visualization in Augmented Reality* (Candidacy Exam, Columbia CS, December 2006)
- Risi Kondor, *Learning on Groups* (Proposal, Columbia CS, May 2006)
- Ashul Kundaje, *Biology and Learning in High Throughput Data* (Candidacy Exam, Columbia CS, May 2006)
- Andrew Howard, *Time Series Models in Machine Learning* (Candidacy Exam, Columbia CS, May 2006)
- Rui Kuang, *Inferring Protein Structure with Discriminative Learning and Network Diffusion* (Proposal, Columbia CS, November 2005)
- Darrin Lewis, *Large Margin Latent Generative Models* (Proposal, Columbia CS, April 2005)
- Sinem Guven, *Situated Multimedia and Hypermedia Authoring in Augmented and Virtual Environments* (Proposal, Columbia CS, April 2005)
- Risi Kondor, *Learning in Structured Domains* (Candidacy Exam, Columbia CS, December 2004)
- Edward Ishak, *Interaction and Visualization Techniques to Virtually Expand Limited Screen Space* (Candidacy Exam, Columbia CS, December 2004)
- Manuel Reyes, *Statistical Graphical Models for Scene Analysis, Source Separtion and Other Audio Applications* (Proposal, Columbia EE, September 2004)
- Rui Kuang, *Machine Learning in the Study of Protein Structure* (Candidacy Exam, Columbia CS, May 2004)
- German Creamer, *Machine Learning Applications to Automated Trading and Corporate Finance Problems* (Candidacy Exam, Columbia CS, April 2004)
- Ke Wang, *Anomaly Detection in Network Security* (Candidacy Exam, Columbia CS, April 2004)

- Drexel Hallaway, *User Tracking for Augmented Reality* (Candidacy Exam, Columbia CS, April 2004)
- Lexing Xie, *Unsupervised Structure Discovery for Multimedia Sequences* (Proposal, Columbia EE, February 2004)
- Dong Qing Zhang, *Discover Compositional Visual Patterns using Graphical Models with Relational Feature and Loopy Belief Inference* (Proposal, Columbia EE, February 2004)
- Yan Liu, *Situated Multimedia and Hypermedia Authoring in Augmented and Virtual Environments* (Proposal, Columbia CS, December 2003)
- Sinem Guven, *Situated Multimedia and Hypermedia Authoring in Augmented and Virtual Environments* (Candidacy Exam, Columbia CS, December 2003)
- Lijun Tang, *Method and User Interface of Instructional Video Indexing* (Candidacy Exam, Columbia CS, November 2003)
- Gabor Blasko, *Manual Input Methods and Techniques for Mobile and Wearable Computer Systems* (Candidacy Exam, Columbia CS, June 2003)
- Pablo Duboue, *Inducing Content Planning Schemata from a Text and Knowledge Resource* (Proposal, Columbia CS, May 2003)
- Darrin Lewis, *Transduction* (Candidacy Exam, Columbia CS, April 2003)
- Simon Lok, *Automated Layout of Information Presentations* (Proposal, Columbia CS, January 2003)