# John Paisley

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## Employment

Columbia University, New York, NY	
Associate Professor, Department of Electrical Engineering	7/2018 - present
Assistant Professor, Department of Electrical Engineering	7/2013 - 7/2018
<b>University of California, Berkeley</b> , Berkeley, CA Postdoctoral Researcher, EECS Computer Science Division. Advisor: Michael I. Jordan	7/2011 - 7/2013
Princeton University, Princeton, NJ	1/2010 - 7/2011
Postdoctoral Researcher, Department of Computer Science. Advisor: David Blei	

## Education

Duke University, Durham, NC
Ph.D. Electrical and Computer Engineering, May 2010. Advisor: Lawrence Carin
M.S. Electrical and Computer Engineering, May 2007
B.S.E. Electrical and Computer Engineering, Computer Science; Minor: Classical Studies, May 2004

Harvard University Extension School, Cambridge, MA

Master of Liberal Arts (ALM), Field: History, November 2020

## Honors, Awards & Other Distinctions

Oral Paper Selection, International Conference on Machine Learning (ICML), 2024 Klein Family History Prize (ALM thesis award), Harvard Extension School, 2021 Best Paper Award, Signal Processing Journal (Elsevier), European Association for Signal Processing, 2020 Minjiang Scholar Professor (honorary), Xiamen University, Information Science and Engineering, 2019–22 Distinguished Faculty Teaching Award, Columbia School of Engineering and Applied Science, 2017 Top 10% Paper Recognition, IEEE International Conference on Image Processing (ICIP), 2013 Notable Paper Award, International Conference on Artificial Intelligence and Statistics (AISTATS), 2011 Charles R. Vail Outstanding Graduate Scholarship Award, Duke University, May 2010 David Randall Fuller Prize for Achievement in ECE, Duke University, May 2004

# Publications

# Journal Papers

 J Benavides, C. Carrillo-Gallegos, V. Kumar, S. T. Rowland, L. G. Chillrud, T. Adeyeye, J. Paisley, B. Coull, D. K. Henze, R. V. Martin, A. Fiore, M-A. Koumourtzoglou (2025). bneR: A collaborative workflow for air pollution exposure modeling and uncertainty characterization using the Bayesian nonparametric ensemble, *Journal of Environmental Management*, vol. 375, no. 124061.

- J. Xu, Z. Lin, M. Chen, J. Yang, D. Zeng and J. Paisley (2025). Fully Bayesian differential Gaussian processes through stochastic differential equations, *Knowledge-Based Systems*, vol. 314, no. 113187.
- T. Jones, O. G. Ward, Y. Jiang, J. Paisley and T. Zheng (2025). Scalable community detection in massive networks using aggregated relational data, *Statistica Sinica*, vol. 35, no. 3.
- H. Lin, W. Zeng, Y. Zhuang, X. Ding, Y. Huang and J. Paisley (2023). Learning rate dropout, *IEEE Transactions on Neural Networks and Learning Systems*, vol. 34, pp. 9029-9039.
- M. Liu, J. Huang, D. Zeng, X. Ding and J. Paisley (2023). A multiscale approach to deep blind image quality assessment, *IEEE Transactions on Image Processing*, vol. 32, pp. 1656-1667.
- T. Sawi, B. Holtzman, F. Walter and J. Paisley (2022). An unsupervised machine-learning approach to understanding seismicity at an alpine glacier, *Journal of Geophysical Research: Earth Surface*, vol. 127, no. 12.
- L. Sun, C. Li X. Ding, Y. Huang, Z. Chen, G. Wang, Y. Yu and J. Paisley (2022). Few-shot medical image segmentation using a global correlation network with discriminative embedding, *Computers in Biology and Medicine*, vol. 140, 105067.
- X. Fu, Q. Qi, Z-J. Zha, X. Ding, J. Paisley and F. Wu (2021). Successive graph convolutional network for image de-raining. *International Journal of Computer Vision: Special Issue on Computer Vision for All Seasons: Adverse Weather and Lighting Conditions*, vol. 129, no. 5, pp. 1691-1711.
- X. Fu, W. Wang, Y. Huang, X. Ding and J. Paisley (2021). Deep multiscale detail networks for multi-band spectral image sharpening, *IEEE Transactions on Neural Networks and Learning Systems*, vol. 32, no. 5, pp. 2090-2104.
- H. Lin, Y. Li, X. Fu, X. Ding, Y. Huang and J. Paisley (2020). Rain O'er Me: Synthesizing real rain to derain with data distillation, *IEEE Transactions on Image Processing*, vol. 29, pp. 7668-7680.
- L. Sun, Y. Wu, B. Shu, X. Ding, C. Cai, Y. Huang and J. Paisley (2020). A dual-domain deep lattice network for rapid MRI reconstruction, *Neurocomputing*, vol. 397, pp. 94-107.
- S. Gultekin, A. Sana, A. Ratnaparkhi and J. Paisley (2020). MBA: Mini-batch AUC optimization, *IEEE Transactions on Neural Networks and Learning Systems*, vol. 31, no. 12, pp. 5561-5574,.
- L Sun, J. Wang, Y. Huang, X. Ding, H. Greenspan and J. Paisley (2020). An adversarial learning approach to medical image synthesis for lesion detection, *IEEE Journal of Biomedical and Health Informatics*, vol. 24, no. 8, pp. 2303-2314.
- 14. L. Sun, W. Ma, X. Ding, Y. Huang, D. Liang and J. Paisley (2020). A 3D spatially-weighted network for segmentation of brain tissue from MRI, *IEEE Transactions on Medical Imaging*, vol. 39, no. 4, pp. 898-909.
- X. Fu, B. Liang, Y. Huang, X. Ding and J. Paisley (2020). Lightweight pyramid networks for image deraining, IEEE Transactions on Neural Networks and Learning Systems, vol. 31, no. 6, pp. 1794-1807.
- 16. L. Sun, Z. Fan, X. Ding, Y. Huang and J. Paisley (2019). Region-of-interest undersampled MRI reconstruction: A deep convolutional neural network approach, *Magnetic Resonance Imaging*, vol. 63, pp. 185-192.
- 17. L. Sun, Z. Fan, X. Ding, C. Cai, Y. Huang and J. Paisley (2019). A divide-and-conquer approach to compressed sensing MRI, *Magnetic Resonance Imaging*, vol. 63, pp. 37-48.
- L. Sun, Z. Fan, X. Fu, Y. Huang, X. Ding and J. Paisley (2019). A deep information sharing network for multi-contrast compressed sensing MRI reconstruction, *IEEE Transactions on Image Processing*, vol. 28, no. 12, pp. 6141-6153.
- S. Gultekin and J. Paisley (2019). Online forecasting matrix factorization, *IEEE Transactions on Signal Processing*, vol. 67, no. 5, pp. 1223-1236.
- 20. B. Holtzman, A. Pate, J. Paisley, F. Waldhauser and D. Repetto (2018). Machine learning reveals cyclic changes in seismic source spectra in Geysers geothermal field, *Science Advances*, vol. 4 no. 5.
- L. Lei, Z. Feng, X. Bai and J. Paisley (2018). A modified EM algorithm for ISAR scatterer trajectory matrix completion, *IEEE Transactions on Geoscience and Remote Sensing*, vol. 56, no. 7, pp. 3953-3962.

- 22. X. Cao, F. Zhou, L. Xu, D. Meng, Z. Xu and J. Paisley (2018). Hyperspectral image classification with Markov random fields and a convolutional neural network, *IEEE Transactions on Image Processing*, vol. 27, no. 5, pp. 2354-2367.
- S. Gultekin and J. Paisley (2017). Nonlinear Kalman filtering with divergence minimization, *IEEE Trans*actions on Signal Processing, vol. 65, no. 23, pp. 6319-6331.
- 24. X. Fu, J. Huang, X. Ding, Y. Liao and J. Paisley (2017). Clearing the skies: A deep network architecture for single-image rain removal, *IEEE Transactions on Image Processing*, vol. 26, no. 6, pp. 2944-2956.
- V. Chen, J. Paisley and X. Lu (2017). Revealing common disease mechanisms shared by tumors of different tissues of origin through semantic representation of genomic alterations and topic modeling, *BMC Genomics*, 8(Suppl 2):105.
- 26. X. Fu, D. Zeng, Y. Huang, Y. Liao, X. Ding and J. Paisley (2016). A fusion-based enhancing method for weakly illuminated images, *Signal Processing*, vol. 129, pp. 82-96. (Best Paper Award)
- J. Paisley, C. Wang, D. Blei and M. I. Jordan (2015). Nested hierarchical Dirichlet processes, *IEEE Trans*actions on Pattern Analysis and Machine Intelligence, vol. 37, no. 2, pp. 256-270.
- T. Broderick, L. Mackey, J. Paisley and M. I. Jordan (2015). Combinatorial clustering and the beta negative binomial process, *IEEE Trans. on Pattern Analysis and Machine Intelligence*, vol. 37, no. 2, pp. 290-306.
- 29. Y. Huang, J. Paisley, Q. Lin, X. Ding, X. Fu and X. Zhang (2014). Bayesian nonparametric dictionary learning for compressed sensing MRI, *IEEE Trans. on Image Processing*, vol. 23, no. 12, pp. 5007-5019.
- M. Hoffman, D. Blei, C. Wang and J. Paisley (2013). Stochastic variational inference, *Journal of Machine Learning Research*, vol. 14, pp. 1303-1347.
- J. Paisley, C. Wang and D. Blei (2012). The discrete infinite logistic normal distribution, *Bayesian Analysis*, vol. 7, no. 2, pp. 235-272.
- 32. M. Zhou, H. Chen, J. Paisley, L. Ren, L. Li, Z. Xing, D. Dunson, G. Sapiro and L. Carin (2012). Nonparametric Bayesian dictionary learning for analysis of noisy and incomplete images, *IEEE Transactions on Image Processing*, vol. 21, no. 1, pp. 130-144.
- 33. J. Paisley, X. Liao and L. Carin (2010). Active learning and basis selection for kernel-based linear models: a Bayesian perspective, *IEEE Transactions on Signal Processing*, vol. 58, no. 5, pp. 2686-2700.
- 34. I. Pruteanu-Malinici, L. Ren, J. Paisley, E. Wang and L. Carin (2010). Hierarchical Bayesian modeling of topics in time-stamped documents, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 32, no. 6, pp. 996-1011.
- 35. M. Chen, J. Silva, J. Paisley, C. Wang, D. Dunson and L. Carin (2010). Compressive sensing on manifolds using a nonparametric mixture of factor analyzers: algorithm and performance bounds, *IEEE Transactions* on Signal Processing, vol. 58, no. 12, pp. 6140-6155.
- 36. B. Chen, M. Chen, J. Paisley, A. Zaas, C. Woods, G.S. Ginsburg, A. Hero III, J. Lucas, D. Dunson and L. Carin (2010). Bayesian inference of the number of factors in gene-expression analysis: Application to human virus challenge studies, *BMC Bioinformatics*, 11:552.
- J. Paisley and L. Carin (2009). Hidden Markov models with stick breaking priors, *IEEE Transactions on Signal Processing*, vol. 57, no. 10, pp. 3905-3917.
- K. Ni, J. Paisley, L. Carin and D. Dunson (2008). Multi-task learning for analyzing and sorting large databases of sequential data, *IEEE Transactions on Signal Processing*, vol. 56, no. 8-2, pp. 3918-3931.
- Y. Qi, J. Paisley, L. Carin (2007). Music analysis using hidden Markov mixture models, *IEEE Transactions* on Signal Processing, vol. 55, no. 11, pp. 5209-5224.

### **Conference Papers**

- 40. J. Xu, S. Du, J. Yang, X. Ding, D. Zeng, J. Paisley (2025). Bayesian Gaussian process ODEs via double normalizing flows, *International Conference on Artificial Intelligence and Statistics (AISTATS)*, Mai Khao, Thailand.
- 41. W. Zhang, B. Barr and J. Paisley (2024). Gaussian process neural network embeddings for collaborative filtering, *IEEE International Conference on Machine Learning and Applications (ICMLA)*, Miami, USA.
- 42. J. Xu, D. Zeng and J. Paisley (2024). Sparse inducing points in deep Gaussian processes: Enhancing modeling with denoising diffusion variational inference, *International Conference on Machine Learning (ICML)*, Vienna, Austria. (oral presentation, awarded to 5.5% of accepted, 1.5% of submitted papers)
- 43. W. Zhang, B. Barr and J. Paisley (2024). Gaussian process neural additive models, AAAI Conference on Artificial Intelligence (AAAI), Vancouver, Canada.
- 44. H. Lin, Y. Zhuang, X. Ding, D. Zeng, Y. Huang, X. Tu and J. Paisley (2023). Self-supervised image denoising using implicit deep denoiser prior, AAAI Conference on Artificial Intelligence (AAAI), Washington, DC, USA.
- 45. J. Paisley, S. Rowland, J. Liu, B. Coull and M-A. Kioumourtzoglou (2022). Bayesian nonparametric model averaging using scalable Gaussian process representations, *IEEE International Conference on Big Data (BIGDATA)*, Osaka, Japan.
- 46. G. Fazelnia and J. Paisley (2022). Probabilistic orthogonal matching pursuit, *IEEE International Conference* on Big Data (BIGDATA), Osaka, Japan.
- 47. W. Zhang, B. Barr and J. Paisley (2022). Understanding counterfactual generation using maximum mean discrepancy, ACM International Conference on AI in Finance (ICAIF), New York, USA.
- 48. W. Zhang, B. Barr and J. Paisley (2022). An interpretable deep classifier for counterfactual generation, ACM International Conference on AI in Finance (ICAIF), New York, USA.
- 49. A. Mittal, J. Paisley and P. Sajda (2022). Deep metric representation learning for clinical resting state fMRI, IEEE Engineering in Medicine and Biology Conference (EMBC), Glasgow, UK.
- 50. G. Fazelnia, M. Ibrahim, C. Modarres, K. Wu and J. Paisley (2020). Mixed membership recurrent neural networks for modeling customer purchases, *ACM International Conference on AI in Finance (ICAIF)*, New York, USA.
- 51. S. Gultekin and J. Paisley (2020). Risk bounds for low cost bipartite ranking, *Conference on Uncertainty in Artificial Intelligence (UAI)*, Toronto, Canada.
- J. Liu, J. Paisley, M-A. Kioumourtzoglou and B. Coull (2019). Accurate uncertainty estimation and decomposition in ensemble learning, Advances in Neural Information Processing Systems (NeurIPS), Vancouver, Canada.
- T. Tu, J. Paisley, S. Haufe and P. Sajda (2019). A state-space model for inferring effective connectivity of latent neural dynamics from simultaneous EEG/fMRI, Advances in Neural Information Processing Systems (NeurIPS), Vancouver, Canada.
- 54. X. Fu, Z. Zha, F. Wu, X. Ding and J. Paisley (2019). JPEG artifacts reduction via deep convolutional sparse coding, *International Conference on Computer Vision (ICCV)*, Seoul, Korea.
- 55. W. Wang, W. Zeng, Y. Huang, X. Ding and J. Paisley (2019). Deep blind hyperspectral image fusion, International Conference on Computer Vision (ICCV), Seoul, Korea.
- 56. A. Zhang and J. Paisley (2019). Random function priors for correlation modeling, *International Conference* on Machine Learning (ICML), Long Beach, USA.
- 57. L. Sun, Z. Fan, X. Ding, Y. Huang and J. Paisley (2019). Joint CS-MRI reconstruction and segmentation with a unified deep network, *Conference on Information Processing in Medical Imaging (IPMI)*, Hong Kong, China.
- 58. A. Zhang, Q. Wang, Z. Zhu, J. Paisley and C. Wang (2019). Fully supervised speaker diarization, *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Brighton, UK.

- 59. M. Ibrahim, M. Louie, C. Modarres and J. Paisley (2019). Global explanations of neural networks: Mapping the landscape of predictions, AAAI/ACM Conference on AI, Ethics, and Society (AIES), Honolulu, USA.
- 60. S. Gultekin, A. Zhang and J. Paisley (2018). Asymptotic simulated annealing for variational inference, *IEEE Global Communications Conference (GLOBECOM)*, Abu Dhabi, UAE.
- 61. Z. Fan, L. Sun, X. Ding, Y. Huang, C. Cai and J. Paisley (2018). A segmentation-aware deep fusion network for compressed sensing MRI, *European Conference on Computer Vision (ECCV)*, Munich, Germany.
- 62. G. Fazelnia and J. Paisley (2018). CRVI: Convex relaxation for variational inference, *International Conference on Machine Learning (ICML)*, Stockholm, Sweden.
- 63. A. Zhang and J. Paisley (2018). Deep Bayesian nonparametric tracking, International Conference on Machine Learning (ICML), Stockholm, Sweden.
- 64. S. Cai, J. Huang, D. Zeng, X. Ding and J. Paisley (2018). MEnet: A metric expression network for salient object segmentation, *International Joint Conference on Artificial Intelligence (IJCAI)*, Stockholm, Sweden.
- 65. L. Sun, Z. Fan, Y. Huang, X. Ding and J. Paisley (2018). Compressed sensing MRI using a recursive dilated network, AAAI Conference on Artificial Intelligence (AAAI), New Orleans, USA.
- 66. S. Sun, J. Paisley and Q. Liu (2017). Location dependent Dirichlet processes, International Conference on Intelligence Science and Big Data Engineering (IScIDE), Dalian, China.
- 67. A. B. Dieng, D. Tran, R. Ranganath, J. Paisley and D. Blei (2017). Variational inference via  $\chi$  upper bound minimization, Advances in Neural Information Processing Systems (NeurIPS), Long Beach, USA.
- 68. J. Yang, X. Fu, Y. Hu, Y. Huang, X. Ding and J. Paisley (2017). PanNet: A deep network architecture for pan-sharpening, *International Conference on Computer Vision (ICCV)*, Venice, Italy.
- X. Fu, J. Huang, D. Zeng, Y. Huang, X. Ding and J. Paisley (2017). Removing rain from single images via a deep detail network, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Honolulu, USA.
- 70. A. B. Dieng, C. Wang, J. Gao and J. Paisley (2017). TopicRNN: A recurrent neural network with long-range semantic dependency, *International Conference on Learning Representations (ICLR)*, Toulon, France.
- A. Zhang and J. Paisley (2016). Markov latent feature models, International Conference on Machine Learning (ICML), New York, USA.
- A. Zhang, S. Gultekin and J. Paisley (2016). Stochastic variational inference for the HDP-HMM, International Conference on Artificial Intelligence and Statistics (AISTATS), Cadiz, Spain.
- 73. Y. Jiang, X. Ding, D. Zeng, Y. Huang and J. Paisley (2015). Pan-sharpening with a hyper-Laplacian penalty, International Conference on Computer Vision (ICCV), Santiago, Chile.
- 74. A. Schein, J. Paisley, D. Blei and H. Wallach (2015). Bayesian Poisson tensor factorization for inferring multilateral relations from sparse dyadic event counts, *International Conference on Knowledge Discovery and Data Mining (KDD)*, Sydney, Australia.
- 75. A. Zhang and J. Paisley (2015). Markov mixed membership models, *International Conference on Machine Learning (ICML)*, Lille, France.
- 76. D. Liang and J. Paisley (2015). Landmarking manifolds with Gaussian processes, *International Conference* on Machine Learning (ICML), Lille, France.
- 77. S. Sertoglu and J. Paisley (2015). Scalable Bayesian nonparametric dictionary learning, *European Signal Processing Conference (EUSIPCO)*, Nice, France. (Invited Paper)
- 78. S. Gultekin and J. Paisley (2014). A collaborative Kalman filter for time-evolving dyadic processes, *IEEE International Conference on Data Mining (ICDM)*, Shenzhen, China.
- 79. D. Liang, J. Paisley and D. Ellis (2014). Codebook-based scalable music tagging with Poisson matrix factorization, *International Society for Music Information Retrieval Conference (ISMIR)*, Taipei, Taiwan.
- X. Ding, Y. Jiang, Y. Huang and J. Paisley (2014). Pan-sharpening with a Bayesian nonparametric dictionary learning model, *International Conference on Artificial Intelligence and Statistics (AISTATS)*, Reykjavik, Iceland.

- X. Ding, J. Paisley, Y. Huang, X. Chen, F. Huang and X. Zhang (2013). Compressed sensing MRI with Bayesian dictionary learning, *IEEE International Conference on Image Processing (ICIP)*, Melbourne, Australia. (Top 10% Paper Recognition among accepted papers)
- J. Xie, Y. Huang, J. Paisley, X. Ding and X. Zhang (2013). Pan-sharpening based on nonparametric Bayesian adaptive dictionary learning, *IEEE International Conference on Image Processing (ICIP)*, Melbourne, Australia.
- 83. J. Paisley, D. Blei and M. I. Jordan (2012). Variational Bayesian inference with stochastic search, *Interna*tional Conference on Machine Learning (ICML), Edinburgh, Scotland.
- 84. J. Paisley, D. Blei and M. I. Jordan (2012). Stick-breaking beta processes and the Poisson process, *Interna*tional Conference on Artificial Intelligence and Statistics (AISTATS), La Palma, Canary Islands.
- 85. J. Paisley, L. Carin and D. Blei (2011). Variational inference for stick-breaking beta process priors, *Inter*national Conference on Machine Learning (ICML), Bellevue, USA.
- 86. J. Paisley, C. Wang and D. Blei (2011). The discrete infinite logistic normal distribution for mixedmembership modeling, *International Conference on Artificial Intelligence and Statistics (AISTATS)*, Fort Lauderdale, USA. (Notable Paper Award)
- 87. C. Wang, J. Paisley and D. Blei (2011). Online variational inference for the hierarchical Dirichlet process, International Conference on Artificial Intelligence and Statistics (AISTATS), Fort Lauderdale, USA.
- 88. M. Zhou, C. Wang, M. Chen, J. Paisley, D. Dunson and L. Carin (2011). Nonparametric Bayesian matrix completion, *International Conference on Sampling Theory and Applications (SampTA)*, Singapore.
- J. Paisley, M. Zhou, G. Sapiro and L. Carin (2010). Nonparametric image interpolation and dictionary learning using spatially-dependent Dirichlet and beta process priors, *IEEE International Conference on Image Processing (ICIP)*, Hong Kong, China.
- 90. J. Paisley, A. Zaas, C. W. Woods, G. S. Ginsburg and L. Carin (2010). A stick-breaking construction of the beta process, *International Conference on Machine Learning (ICML)*, Haifa, Israel.
- 91. J. Paisley and L. Carin (2010). A nonparametric Bayesian model for kernel matrix completion, *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, USA.
- 92. B. Chen, J. Paisley, L. Carin (2010). Sparse linear regression with beta process priors, *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Dallas, USA.
- 93. M. Zhou, H. Chen, J. Paisley, L. Ren, G. Sapiro and L. Carin (2009). Non-parametric Bayesian dictionary learning for sparse image representations, Advances in Neural Information Processing Systems (NIPS), Vancouver, Canada.
- 94. J. Paisley and L. Carin (2009). Nonparametric factor analysis with beta process priors, International Conference on Machine Learning (ICML), Montreal, Canada.
- 95. J. Paisley and L. Carin (2009). Dirichlet process mixture models with multiple modalities, *IEEE Interna*tional Conference on Acoustics, Speech and Signal Processing (ICASSP), Taipei, Taiwan.
- 96. Y. Qi, J. Paisley, L. Carin (2007). Dirichlet process HMM mixture models with application to music analysis, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Honolulu, USA.

#### **Book Chapters**

97. J. Paisley, D. Blei and M. I. Jordan (2014). Bayesian nonnegative matrix factorization with stochastic variational inference, In E. Airoldi, D. Blei, E. Erosheva & S. Fienberg (Eds.), *Handbook of Mixed Membership Models and Their Applications*. Chapman & Hall/CRC Handbooks of Modern Statistical Methods.

## Thesis

- 98. J. Paisley (2020). Bertrand Russell and China During and After His Visit in 1920. A.L.M. Thesis, Harvard University Extension School. (Awarded the Klein Family History Prize)
- 99. J. Paisley (2010). Machine Learning with Dirichlet and Beta Process Priors: Theory and Applications. Ph.D. Dissertation, Duke University.
- 100. J. Paisley (2007). Machine Learning Applications in Music Recommendation. M.S. Thesis, Duke University.

#### Selected Professional Activities

## Senior Program Committee / Area Chair / Senior Area Chair

International Conference on Machine Learning (ICML), 2015, 2018, 2020, 2021, 2022, 2025 Neural Information Processing Systems (NeurIPS), 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025 Artificial Intelligence and Statistics (AISTATS), 2014, 2015, 2017, 2022, 2023, 2024, 2025 Uncertainty in Artificial Intelligence (UAI), 2019, 2023, 2024, 2025 International Joint Conference on Artificial Intelligence (IJCAI), 2015, 2016, 2017, 2019, 2020, 2021 AAAI Conference on Artificial Intelligence (AAAI), 2018, 2020, 2021, 2022, 2023, 2024, 2025 International Conference on Learning Representations (ICLR), 2021, 2022, 2024, 2025

#### **Conference and Workshop Organization**

NeurIPS Workshop on Fair AI in Finance (co-organizer), 2020

NeurIPS Workshop on Challenges and Opportunities for AI in Financial Services (co-organizer), 2018
IEEE International Conference on Visual Communications and Image Processing (special sessions), 2018
IEEE International Workshop on Multimedia Signal Processing (special sessions), 2015
International Conference on Machine Learning (volunteers), 2014
Topic contributed session (organizer and chair), Joint Statistical Meetings, 2013

### Associate Editor

IEEE Transactions on Pattern Analysis and Machine Intelligence, 2019 – 2020

#### Teaching at Columbia University

EECS 6720: Bayesian Models for Machine Learning, F16, F17, F18, F20, F23 (as 6892) S14, F15 ELEN 4720: Machine Learning for Sig, Info & Data, S20, F21, S24, F24, F25 (as 4903) S16, S18 COMS 4721: Machine Learning for Data Science, S15, S17, S19, S21, S23, S25 EECS 9601: Topic: Advanced Probabilistic Machine Learning, F19, S22 (as ELEN 9801) F14 ENGI 4800: Data Science Capstone & Ethics (mentor, with Marianthi-Anna Kioumourtzoglou), F19 ColumbiaX on edX (Computer Science): Machine Learning (filmed in Fall 2016)

# Scientific Advisor

Text IQ (2017 - 2021) http://www.textiq.com Correlation One (2017 - 2021) http://www.correlation-one.com

# Other Information

Tenured at Columbia since July 2020

Google Scholar: https://scholar.google.com/citations?user=r31\_fYQAAAAJ&hl=en

Patent: M. Ibrahim, J. Paisley, C. Modarres and M. Louie. Techniques to perform global attribution mappings to provide insights in neural networks. U.S. Patent 11,928,853, March 12, 2024.

Other languages: Chinese (advanced, HSK 5 in 2012), Japanese (low intermediate, JLPT N4 in 2019) Citizenship: USA