Mingyuan Zhou

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Education

- **Duke University**, Durham, NC, May 2013
  Ph.D. in Electrical and Computer Engineering

- **Chinese Academy of Sciences**, Beijing, China, June 2008
  M.Sc. in Signal and Information Processing

- **Nanjing University**, Nanjing, China, June 2005
  B.Sc. in Acoustics, Department of Electronic Science and Engineering

Employment

Assistant Professor of Statistics
Department of Information, Risk, and Operations Management, McCombs School of Business
The University of Texas at Austin
July 2013 –

Working Papers

1. **Mingyuan Zhou**, "Generalized Negative Binomial Processes and the Representation of Cluster Structures," arxiv:1310.1800, Oct. 2013.
2. Gungor Polatkan, **Mingyuan Zhou**, Lawrence Carin, David Blei, and Ingrid Daubechies, "A Bayesian nonparametric approach to image super-resolution," arXiv:1209.5019, Sept. 2012.

Refereed Journal Publications

3. **Mingyuan Zhou** and Lawrence Carin, "Negative Binomial Process Count and Mixture Modeling," to appear in IEEE Trans. Pattern Analysis and Machine Intelligence, 2013.
4. D. Carlson, J. Vogelstein, Q. Wu, W. Lian, **M. Zhou**, C. R. Stoetzner, D. Kipke, D. Weber, D. Dunson and L. Carin, "Sorting Electrophysiological Data via Dictionary Learning & Mixture Modeling," to appear in IEEE Trans. Biomedical Engineering, 2013.
5. Zhengming Xing, **Mingyuan Zhou**, Alexey Castrodad, Guillermo Sapiro, and Lawrence Carin, "Dictionary Learning for Noisy and Incomplete Hyperspectral Images," *SIAM Journal on Imaging Sciences*, Vol.5, pp. 33-56, Jan. 2012.
6. **Mingyuan Zhou**, Haojun Chen, John Paisley, Lu Ren, Lingbo Li, Zhengming Xing, David Dunson, Guillermo Sapiro, and Lawrence Carin, "Nonparametric Bayesian Dictionary Learning for Analysis of Noisy and Incomplete Images," *IEEE Trans. Image Processing*, Vol. 21, pp. 130-144, Jan. 2012.
7. Chengshi Zheng, **Mingyuan Zhou**, and Xiaodong Li, "On the relationship of non-parametric methods for coherence function estimation," *Signal Processing*, vol. 88, pp. 2863-2867, Nov. 2008.

8. **Mingyuan Zhou**, Jialu Chen, and Xiaodong Li, "A time/frequency-domain unified delayless partitioned block frequency-domain adaptive filter," *IEEE Signal Processing Letters*, vol. 14, pp. 976-979, Dec. 2007.
9. **Mingyuan Zhou** and Xiaojun Qiu, "An error path delay compensated delayless subband adaptive filter architecture," *Signal Processing*, vol. 87, pp. 2640-2648, Nov. 2007.

Peer-Reviewed Conference Publications

10. **Mingyuan Zhou** and Lawrence Carin, "Augment-and-Conquer Negative Binomial Processes," *Neural Information Processing Systems (**NIPS** 2012)*, Lake Tahoe, NV, Dec. 2012. (Acceptance Rate: **4.9%**, Poster Spotlight Oral Presentation)
11. **Mingyuan Zhou**, Lingbo Li, David Dunson, and Lawrence Carin, "Lognormal and Gamma Mixed Negative Binomial Regression," *International Conference on Machine Learning (**ICML** 2012)*, Edinburgh, Scotland, June 2012. (Acceptance Rate: **27%**, Full Presentation)
12. **Mingyuan Zhou**, Lauren Hannah, David Dunson, and Lawrence Carin, "Beta-Negative Binomial Process and Poisson Factor Analysis," *International Conference on Artificial Intelligence and Statistics (**AISTATS** 2012)*, La Palma, Canary Islands, Spain, Apr. 2012. (Acceptance Rate: **33%**)
13. Xu Chen, **Mingyuan Zhou** and Lawrence Carin, "The Contextual Focused Topic Model," *ACM SIGKDD Conf. Knowledge Discovery and Data Mining (**KDD** 2012)*, Beijing, China, Aug. 2012. (Acceptance Rate: **18%**, Full Paper, Research Track)
14. Lingbo Li, Xianxing Zhang, **Mingyuan Zhou**, and Lawrence Carin, "Nested Dictionary Learning for Hierarchical Organization of Imagery and Text," *Conference on Uncertainty in Artificial Intelligence (**UAI** 2012)*, Catalina Island, CA, Aug. 2012. (Acceptance Rate: **31%**)
15. Lingbo Li, **Mingyuan Zhou**, Guillermo Sapiro, and Lawrence Carin, "On the Integration of Topic Modeling and Dictionary Learning," *International Conference on Machine Learning (**ICML** 2011)*, Bellevue, WA, June 2011. (Acceptance Rate: **26%**)
16. **Mingyuan Zhou**, Hongxia Yang, Guillermo Sapiro, David Dunson, and Lawrence Carin, "Dependent Hierarchical Beta Process for Image Interpolation and Denoising," *International Conference on Artificial Intelligence and Statistics (**AISTATS** 2011), JMLR W&CP*, vol. 15, Ft. Lauderdale, FL, Apr. 2011 . (Acceptance Rate: **8.1%**, Oral Presentation)
17. **Mingyuan Zhou**, Haojun Chen, John Paisley, Lu Ren, Guillermo Sapiro, and Lawrence Carin, "Non-Parametric Bayesian dictionary learning for sparse image representations," *Neural Information Processing Systems (**NIPS** 2009)*, Vancouver, B.C., Canada, Dec. 2009. (Acceptance Rate: **2.0%**, Oral Presentation)

Other Refereed Publications

18. Lingbo Li, Jorge Silva, **Mingyuan Zhou**, and Lawrence Carin, "Online Bayesian Dictionary Learning for Large Datasets," *International Conference on Acoustics, Speech and Signal Processing (ICASSP2012)*, Kyoto, Japan, Mar. 2012.
19. **Mingyuan Zhou** , Hongxia Yang, Guillermo Sapiro, David Dunson, and Lawrence Carin, "Landmark-Dependent Hierarchical Beta Process for Robust Sparse Factor Analysis," *ICML2011 Structured Sparsity Workshop*, Bellevue, WA, June 2011.
20. **Mingyuan Zhou**, Hongxia Yang, Guillermo Sapiro, David Dunson, and Lawrence Carin, "Covariate-Dependent Dictionary Learning and Sparse Coding," *International Conference on Acoustics, Speech and Signal Processing (ICASSP2011)*, Prague, Czech Republic, May 2011 [Invited paper and oral presentation].
21. Lingbo Li, **Mingyuan Zhou**, Eric Wang, and Lawrence Carin, "Joint Dictionary Learning and Topic Modeling for Image Clustering," in *Proc. International Conference on Acoustics, Speech and Signal Processing (ICASSP2011)*, Prague, Czech Republic, May 2011.

22. **Mingyuan Zhou**, Chunping Wang, Minhua Chen, John Paisley, David Dunson, and Lawrence Carin, "Nonparametric Bayesian Matrix Completion," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop (SAM2010)*, Israel, Oct. 2010.
23. John Paisley, **Mingyuan Zhou**, Guillermo Sapiro, and Lawrence Carin, "Nonparametric Image Interpolation and Dictionary Learning Using Spatially-Dependent Dirichlet and Beta Process Priors," in *Proc. International Conference on Image Processing (ICIP2010)*, Hong Kong, Sept. 2010.
24. **Mingyuan Zhou**, John Paisley, and Lawrence Carin, "Nonparametric Learning of Dictionaries for Sparse Representation of Sensor Signals," in *Proc. 3rd IEEE Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP2009)*, Aruba, Dec. 2009.
25. **Mingyuan Zhou** and Xiaodong Li, "A variable step-size for frequency-domain acoustic echo cancellation," in *Proc. 2007 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics (WASPAA'07)*, New Paltz, NY, Oct. 2007, pp. 303-306.
26. Chengshi Zheng, **Mingyuan Zhou**, and Xiaodong Li, "A modified *A Priori* SNR estimator based on the united speech presence probabilities (in Chinese),", *Journal of Electronics & Information Technology*, 2008.
27. **Mingyuan Zhou** and Xiaodong Li, "A magnitude-squared coherence based acoustic echo suppression algorithm (in Chinese)," in *Proc. 2007 Chinese Audio Engineering Society Conference*, Changsha, China, Oct. 2007.
28. **Mingyuan Zhou** and Xiaodong Li, "Acoustic echo suppression for Bluetooth earphone (in Chinese)," Technical Report, 2007.
29. **Mingyuan Zhou** and Xiaodong Li, "Step-size control for the multidelay block frequency-domain adaptive filter algorithm (in Chinese)," in *Proc. 2007 Chinese Young Researchers' Conference on Acoustics (CYCA'07)*, Wuhan, China, Sept. 2007.
30. **Mingyuan Zhou** and Xiaodong Li, "*A Priori* SNR estimation based on the density distribution of *A Posterior* SNR (in Chinese)," in *Proc. 2006 National Conference on Acoustics*, Xiamen, China, Oct. 2006.
31. **Mingyuan Zhou** and Xiaojun Qiu, "The construction of analysis filters in delayless subband adaptive filter (in Chinese)," in *Proc. 2005 Chinese Young Researchers' Conference on Acoustics (CYCA'05)*, Hangzhou, China, Apr. 2005. (**Best Paper Award)**

Professional Activities

Reviewer/Program Committee Member:

- ICML 2014, 2013, 2012
- AISTATS 2014
- NIPS 2013, 2012
- Journal of Machine Learning Research
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Image Processing
- SIAM Journal on Imaging Sciences
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Circuits and Systems for Video Technology
- IEEE Geoscience and Remote Sensing Letters
- IEEE Signal Processing Letters
- Journal of Visual Communication and Image Representation

Invited/Contributed Talks:

- "Count-Mixture Modeling and Exchangeable Random Partitions," Random Structures Seminar, Department of Mathematics, The University of Texas at Austin, Nov. 2013.
- "Nonparametric Bayesian count and mixture modeling," McCombs School of Business and Division of Statistics & Scientific Computation, The University of Texas at Austin, Jan. 2013.
- "Nonparametric Bayesian dictionary learning and count & mixture modeling," IBM T. J. Watson Research Center, Yorktown Heights, NY, Dec. 2012.
- "Augment-and-conquer negative binomial processes," NIPS 2012, Lake Tahoe, NV, Dec. 2012.
- "Nonparametric Bayesian count and mixture modeling," University of Southern California, hosted by Prof. Fei Sha, Los Angeles, CA, Oct. 2012.
- "Nonparametric Bayesian latent variable models," MERL - Mitsubishi Electric Research Laboratories, hosted by Dr. Dehong Liu, Cambridge, MA, July 2012.
- "Lognormal and gamma mixed negative binomial regression," ICML 2012, Edinburgh, Scotland, June 2012.
- "Efficient Bayesian inference for the negative binomial distribution," Duke ECE Graduate Research Workshop, Jan. 2012.
- "On the integration of topic modeling and dictionary learning," 8th Workshop on Bayesian Nonparametrics, June 2011, Veracruz, Mexico.
- "Covariate-dependent dictionary learning and sparse coding," ICASSP 2011, Prague, Czech Republic, May 2011.
- "Dependent hierarchical beta process for image interpolation and denoising," SampTA 2011, Singapore, May 2011.
- " Non-parametric Bayesian dictionary learning with landmark-dependent hierarchical beta Process," The Learning Workshop, Ft. Lauderdale, FL, Apr. 2011.
- "Dependent hierarchical beta process for image interpolation and denoising," AISTATS 2011, Ft. Lauderdale, FL, Apr. 2011.
- "Bayesian dictionary learning," Duke DISP Computational Imaging Seminar Series, Mar. 2011
- "Non-parametric Bayesian dictionary learning for sparse image representations," NIPS 2009, Dec. 2009, Vancouver, B.C., Canada.
- "Non-parametric Bayesian dictionary learning for sparse image representation and user rating matrix completion," University of California, Los Angeles, hosted by Prof. Stanley Osher, Los Angeles, CA, Nov. 2009.

Work Experience:

- 2010, summer Intern at IBM T. J. Watson Research Center, Hawthorne, New York, working with Doctors Lexing Xie , Gang Hua and Apostol (Paul) Natsev.