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Education

- **Duke University**, Durham, NC, May 2013
  Ph.D. in Electrical and Computer Engineering
  Ph.D. Thesis Committee: Professors Lawrence Carin (Supervisor), Robert Calderbank, David Dunson, Mauro Maggioni, Guillermo Sapiro, and Rebecca Willett
  Thesis title: Nonparametric Bayesian Dictionary Learning and Count & Mixture Modeling

- **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

- **The University of Texas at Austin**, Austin, TX, July 2013 – Present
  Department of Information, Risk, and Operations Management, McCombs School of Business
  Department of Statistics and Data Sciences (core faculty)
  - ⋆ Curtis Mathes Memorial Fellow, September 2021 – Present
  - ⋆ Associate Professor, September 2019 – Present
  - ⋆ Assistant Professor, July 2013 – August 2019
- **Google DeepMind**, Visiting Faculty Researcher, January 2025 – Present
- **Google Inc.**, Visiting Faculty Researcher, December 2023 – January 2025

Working Papers

1. Yueqin Yin, Shentao Yang, Yujia Xie, Ziyi Yang, Yuting Sun, Hany Awadalla, Weizhu Chen, and **Mingyuan Zhou**, "Segmenting text and learning their rewards for improved RLHF in language model," 2025
2. Xiong Peng, Bo Han, Feng Liu, Tongliang Liu, and **Mingyuan Zhou**, "Single-step diffusion model-based generative model inversion attacks," *Under review*, 2024.
3. Zhendong Wang, Zhaoshuo Li, Ajay Mandlekar, Zhenjia Xu, Jiaojiao Fan, Yashraj Narang, Linxi Fan, Yuke Zhu, Yogesh Balaji, **Mingyuan Zhou**, Ming-Yu Liu, and Yu Zeng, "One-step diffusion policy: Fast visuomotor policies via diffusion distillation," *Under review*, 2024.
4. Yi Gu, Zhendong Wang, Yueqin Yin, Yujia Xie, and **Mingyuan Zhou**, "Diffusion-RPO: Aligning diffusion models through relative preference optimization," *ArXiv 2406.06382*, 2024.
5. Xizewen Han and **Mingyuan Zhou**, "Diffusion boosted trees," *ArXiv 2406.01813*, 2024.

6. Yueqin Yin, Zhendong Wang, Yujia Xie, Weizhu Chen, and **Mingyuan Zhou**, "Self-augmented preference optimization: Off-policy paradigms for language model alignment," *ArXiv 2405.20830*, 2024.
7. Yueqin Yin, Zhendong Wang, Yi Gu, Hai Huang, Weizhu Chen, and **Mingyuan Zhou**, "Relative preference optimization: Enhancing LLM alignment through contrasting responses across identical and diverse prompts," *ArXiv 2402.10958*, 2024.
8. Tianqi Chen, Yongfei Liu, Zhendong Wang, Jianbo Yuan, Quanzeng You, Hongxia Yang, and **Mingyuan Zhou**, "Improving in-context learning in diffusion models with visual context-modulated prompts," *arXiv preprint arXiv:2312.01408*, 2023.
9. Shujian Zhang, Chengyue Gong, Lemeng Wu, Xingchao Liu, and **Mingyuan Zhou**, "AutoML-GPT: Automatic machine learning with GPT," *arXiv preprint arXiv:2305.02499*, 2023.
10. Mohammadreza Armandpour, Huangjie Zheng, Ali Sadeghian, Amir Sadeghian, and **Mingyuan Zhou**, "Re-imagine the negative prompt algorithm: Transform 2D diffusion into 3D, alleviate Janus problem and beyond," *arXiv preprint arXiv:2304.04968*, 2023. (the first three authors contributed equally).
11. Huangjie Zheng, Pengcheng He, Weizhu Chen, and **Mingyuan Zhou**, "Mixing and shifting: Exploiting global and local dependencies in vision MLPs," *arXiv preprint arXiv:2202.06510*, 2022.
12. Shentao Yang, Zhendong Wang, Huangjie Zheng, Yihao Feng, and **Mingyuan Zhou**, "A regularized implicit policy for offline reinforcement learning," *arXiv preprint arXiv:2202.09673*, 2022.
13. Chunyuan Li, Xiujun Li, Lei Zhang, Baolin Peng, **Mingyuan Zhou**, and Jianfeng Gao, "Self-supervised pre-training with hard examples improves visual representations," *arXiv:2012.13493*, Dec. 2020.
14. Mingzhang Yin, Nhat Ho, Bowei Yan, Xiaoning Qian, and **Mingyuan Zhou**, "Probabilistic best subset selection via gradient-based optimization," arXiv:2006.06448, June 2020.
15. Ehsan Hajiramezanali, Siamak Zamani Dadaneh, Paul de Figueiredo, Sing-Hoi Sze, **Mingyuan Zhou**, and Xiaoning Qian, "Differential expression analysis of dynamical sequencing count data with a gamma Markov chain," arXiv:1803.02527, March 2018.
16. **Mingyuan Zhou**, "Softplus regressions and convex polytopes," arXiv:1608.06383, Aug. 2016.

Refereed Conference Publications

17. **Mingyuan Zhou**, Huangjie Zheng, Yi Gu, Zhendong Wang, and Hai Huang, "Adversarial score identity distillation: Rapidly surpassing the teacher in one step," in *ICLR 2025: International Conference on Learning Representations*, 2025
18. Tianqi Chen, Shujian Zhang, and **Mingyuan Zhou**, "Score forgetting distillation: A swift, data-free method for machine unlearning in diffusion models," in *ICLR 2025: International Conference on Learning Representations*, 2025
19. Xinyue Hu, Zhibin Duan, Bo Chen, and **Mingyuan Zhou**, "Enhancing uncertainty estimation and interpretability with bayesian non-negative decision layer," in *ICLR 2025: International Conference on Learning Representations*, 2025
20. Hangting Ye, He Zhao, Wei Fan, **Mingyuan Zhou**, Dan dan Guo, and Yi Chang, "DRL: Decomposed representation learning for tabular anomaly detection," in *ICLR 2025: International Conference on Learning Representations*, 2025
21. **Mingyuan Zhou**, Zhendong Wang, Huangjie Zheng, and Hai Huang, "Guided score identity distillation for data-free one-step text-to-image generation," in *ICLR 2025: International Conference on Learning Representations*, 2025
22. Xinyang Liu, Yilin He, Bo Chen, and **Mingyuan Zhou**, "Advancing graph generation through beta diffusion," in *ICLR 2025: International Conference on Learning Representations*, 2025. (the first two authors contributed equally)

23. Tianyu Chen, Zhendong Wang, and **Mingyuan Zhou**, "Diffusion policies creating a trust region for offline reinforcement learning," in *NeurIPS 2024: Neural Information Processing Systems*, 2024. (the first two authors contributed equally).

24. Xiong Peng, Bo Han, Feng Liu, Tongliang Liu, and **Mingyuan Zhou**, "Pseudo-private data guided model inversion attacks," in *NeurIPS 2024: Neural Information Processing Systems*, 2024.

25. **Mingyuan Zhou**, Huangjie Zheng, Zhendong Wang, Mingzhang Yin, and Hai Huang, "Score identity distillation: Exponentially fast distillation of pretrained diffusion models for one-step generation," in *ICML 2024: International Conference on Machine Learning*, 2024. (Acceptance Rate: **27%**)

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27. Yuxin Li, Yaoxuan Feng, Wenchao Chen, Yubiao Wang, Xinyue Hu, Baolin Sun, Chunhui Qu, Bo Chen, and **Mingyuan Zhou**, "Vague prototype-oriented diffusion model for multi-class anomaly detection," in *ICML 2024: International Conference on Machine Learning*, 2024. (Acceptance Rate: **27%**)

28. Shujian Zhang, Korawat Tanwisuth, Chengyue Gong, Pengcheng He, and **Mingyuan Zhou**, "Switchable decision: Dynamic neural generation networks," in *ICML 2024: International Conference on Machine Learning*, 2024. (Acceptance Rate: **27%**)

29. Xinyang Liu, Dongsheng Wang, Miaoge Li, Zhibin Duan, Yishi Xu, Bo Chen, and **Mingyuan Zhou**, "Patch-prompt aligned Bayesian prompt tuning for vision-language models," in *UAI 2024: Conference on Uncertainty in Artificial Intelligence*, 2024

30. Ruyi An, Yewen Li, Xu He, Pengjie Gu, Mengcheng Zhao, Dong Li, Jianye Hao, Chaojie Wang, Bo An, and **Mingyuan Zhou**, "Improving unsupervised hierarchical representation with reinforcement learning," in *CVPR 2024: Conference on Computer Vision and Pattern Recognition*, 2024.. (Acceptance Rate: **24%**)

31. Huangjie Zheng, Zhendong Wang, Jianbo Yuan, Guanghan Ning, Pengcheng He, Quanzeng You, Hongxia Yang, and **Mingyuan Zhou**, "Learning stackable and skippable LEGO bricks for efficient, reconfigurable, and variable-resolution diffusion modeling," in *ICLR 2024: International Conference on Learning Representations*, 2024. (Acceptance Rate: **31%**)

32. Yuxin Li, Wenchao Chen, Xinyue Hu, Bo Chen, Baolin Sun, and **Mingyuan Zhou**, "Transformer-modulated diffusion models for probabilistic multivariate time series forecasting," in *ICLR 2024: International Conference on Learning Representations*, 2024. (Acceptance Rate: **31%**)

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34. **Mingyuan Zhou**, Tianqi Chen, Zhendong Wang, and Huangjie Zheng, "Beta diffusion," in *NeurIPS 2023: Neural Information Processing Systems*, 2023. (Acceptance Rate: **26%**)

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39. Zhibin Duan, Zhiyi Lv, Chaojie Wang, Bo Chen, Bo An, and **Mingyuan Zhou**, "Few-shot generation via recalling brain-inspired episodic-semantic memory," in *NeurIPS 2023: Neural Information Processing Systems*, 2023. (Acceptance Rate: **26%**)
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41. Tianqi Chen and **Mingyuan Zhou**, "Learning to jump: Thinning and thickening latent counts as a general method for generative modeling," in *ICML 2023: International Conference on Machine Learning*, July 2023. (Acceptance Rate: **28%**)
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43. Yuxin Li, Wenchao Chen, Bo Chen, Dongsheng Wang, Long Tian, and **Mingyuan Zhou**, "Prototype-oriented unsupervised anomaly detection for multivariate time series," in *ICML 2023: International Conference on Machine Learning*, July 2023. (Acceptance Rate: **28%**)
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45. Yiming Qin, Huangjie Zheng, Jiangchao Yao, **Mingyuan Zhou**, and Ya Zhang, "Class-balancing diffusion models," in *CVPR 2023: Conference on Computer Vision and Pattern Recognition*, 2023. (Acceptance Rate: **26%**)
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47. Zhendong Wang, Jonathan J Hunt, and **Mingyuan Zhou**, "Diffusion policies as an expressive policy class for offline reinforcement learning," in *ICLR 2023: International Conference on Learning Representations*, 2023. (Acceptance Rate: **32%**)
48. Zhendong Wang, Huangjie Zheng, Pengcheng He, Weizhu Chen, and **Mingyuan Zhou**, "Diffusion-GAN: Training GANs with diffusion," in *ICLR 2023: International Conference on Learning Representations*, 2023. (Acceptance Rate: **32%**)
49. Yihao Feng, Shentao Yang, Shujian Zhang, Jianguo Zhang, Caiming Xiong, **Mingyuan Zhou**, and Huan Wang, "Fantastic rewards and how to tame them: A case study on reward learning for task-oriented dialogue systems," in *ICLR 2023: International Conference on Learning Representations*, 2023. (Acceptance Rate: **32%**)
50. Huangjie Zheng, Pengcheng He, Weizhu Chen, and **Mingyuan Zhou**, "Truncated diffusion probabilistic models and diffusion-based adversarial auto-encoders," in *ICLR 2023: International Conference on Learning Representations*, 2023. (Acceptance Rate: **32%**)
51. Zhendong Wang, Ruijiang Gao, Mingzhang Yin, **Mingyuan Zhou**, and David M. Blei, "Probabilistic conformal prediction using conditional random samples," in *AISTATS 2023: International Conference on Artificial Intelligence and Statistics*, 2023. (the first three authors contributed equally). (Acceptance Rate: **29%**)

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53. Xizewen Han, Huangjie Zheng, and **Mingyuan Zhou**, "CARD: Classification and regression diffusion models," in *NeurIPS 2022: Neural Information Processing Systems*, 2022. (the first two authors contributed equally). (Acceptance Rate: **26%**)

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55. Shentao Yang, Yihao Feng, Shujian Zhang, and **Mingyuan Zhou**, "A unified framework for alternating offline model training and policy learning," in *NeurIPS 2022: Neural Information Processing Systems*, Dec. 2022. (Acceptance Rate: **26%**)

56. Dandan Guo, Long Tian, He Zhao, **Mingyuan Zhou**, and Hongyuan Zha, "Adaptive distribution calibration for few-shot learning with hierarchical optimal transport," in *NeurIPS 2022: Neural Information Processing Systems*, Dec. 2022. (Acceptance Rate: **26%**)

57. Dandan Guo, Zhuo Li, Meixi Zheng, He Zhao, **Mingyuan Zhou**, and Hongyuan Zha, "Learning to re-weight examples with optimal transport for imbalanced classification," in *NeurIPS 2022: Neural Information Processing Systems*, Dec. 2022. (Acceptance Rate: **26%**)

58. Yishi Xu, Dongsheng Wang, Bo Chen, Ruiying Lu, Zhibin Duan, and **Mingyuan Zhou**, "Hyperminer: Topic taxonomy mining with hyperbolic embedding," in *NeurIPS 2022: Neural Information Processing Systems*, Dec. 2022.(Acceptance Rate: **26%**) (Featured as Spotlight Lightning Talk)

59. Yewen Li, Chaojie Wang, Zhibin Duan, Dongsheng Wang, Bo Chen, Bo An, and **Mingyuan Zhou**, "Alleviating "posterior collapse" in deep topic models via policy gradient," in *NeurIPS 2022: Neural Information Processing Systems*, Dec. 2022. (Acceptance Rate: **26%**)

60. Dongsheng Wang, Yishi Xu, Miaoge Li, Zhibin Duan, Chaojie Wang, Bo Chen, and **Mingyuan Zhou**, "Knowledge-aware Bayesian deep topic model," in *NeurIPS 2022: Neural Information Processing Systems*, Dec. 2022. (Acceptance Rate: **26%**) (Featured as Spotlight Lightning Talk)

61. Shentao Yang, Yihao Feng, Shujian Zhang, and **Mingyuan Zhou**, "Regularizing a model-based policy stationary distribution to stabilize offline reinforcement learning," in *ICML 2022: International Conference on Machine Learning*, July 2022. (Acceptance Rate: **22%**)

62. Wenchao Chen, Long Tian, Bo Chen, Liang Dai, Zhibin Duan, and **Mingyuan Zhou**, "Deep variational graph convolutional recurrent network for multivariate time series anomaly detection," in *ICML 2022: International Conference on Machine Learning*, July 2022. (Acceptance Rate: **22%**)

63. Zhibin Duan, Yishi Xu, Jianqiao Sun, Bo Chen, Wenchao Chen, Chaojie Wang, and **Mingyuan Zhou**, "Bayesian deep embedding topic meta-learner," in *ICML 2022: International Conference on Machine Learning*, July 2022. (Acceptance Rate: **22%**)

64. Shujian Zhang, Chengyue Gong, Xingchao Liu, Pengcheng He, Weizhu Chen, and **Mingyuan Zhou**, "ALLSH: Active learning guided by local sensitivity and hardness," in *Findings of NAACL 2022: Annual Conference of the North American Chapter of the Association for Computational Linguistics*, 2022.

65. Dongsheng Wang, Dandan Guo, He Zhao, Huangjie Zheng, Korawat Tanwisuth, Bo Chen, and **Mingyuan Zhou**, "Representing mixtures of word embeddings with mixtures of topic embeddings," in *ICLR 2022: International Conference on Learning Representations*, 2022. (Acceptance Rate: **33%**)

66. Dandan Guo, Long Tian, Minghe Zhang, **Mingyuan Zhou**, and Hongyuan Zha, "Learning prototype-oriented set representations for meta-learning," in *ICLR 2022: International Conference on Learning Representations*, 2022. (Acceptance Rate: **33%**)

67. Haoang Chi, Feng Liu, Wenjing Yang, Long Lan, Tongliang Liu, Bo Han, Gang Niu, **Mingyuan Zhou**, and Masashi Sugiyama, "Meta discovery: Learning to discover novel classes given very limited data," in *ICLR 2022: International Conference on Learning Representations*, 2022. (Spotlight, Acceptance Rate: **7%**)

68. Korawat Tanwisuth, Xinjie Fan, Huangjie Zheng, Shujian Zhang, Hao Zhang, Bo Chen, and **Mingyuan Zhou**, "A prototype-oriented framework for unsupervised domain adaptation," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

69. Huangjie Zheng and **Mingyuan Zhou**, "Exploiting chain rule and Bayes' theorem to compare probability distributions," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

70. Aleksandar Dimitriev and **Mingyuan Zhou**, "CARMS: Categorical-antithetic-REINFORCE multi-sample gradient estimator," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

71. Mohammadreza Armandpour, Ali Sadeghian, and **Mingyuan Zhou**, "Convex polytope trees," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

72. Shujian Zhang, Xinjie Fan, Huangjie Zheng, Korawat Tanwisuth, and **Mingyuan Zhou**, "Alignment attention by matching key and query distributions," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

73. Zhibin Duan, Yishi Xu, Bo Chen, Dongsheng Wang, Chaojie Wang, and **Mingyuan Zhou**, "TopicNet: Semantic graph-guided topic discovery," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

74. Qizhou Wang, Feng Liu, Bo Han, Tongliang Liu, Chen Gong, Gang Niu, **Mingyuan Zhou**, and Masashi Sugiyama, "Probabilistic margins for instance reweighting in adversarial training," in *NeurIPS 2021: Neural Information Processing Systems*, Dec. 2021. (Acceptance Rate: **26%**)

75. Shujian Zhang, Xinjie Fan, Bo Chen, and **Mingyuan Zhou**, "Bayesian attention belief networks," in *ICML 2021: International Conference on Machine Learning*, July 2021. (Acceptance Rate: **22%**)

76. Aleksandar Dimitriev and **Mingyuan Zhou**, "ARMS: Antithetic-REINFORCE-multi-sample gradient for binary variables," in *ICML 2021: International Conference on Machine Learning*, July 2021. (Acceptance Rate: **22%**)

77. Zhibin Duan, Dongsheng Wang, Bo Chen, Chaojie Wang, Wenchao Chen, Yewen Li, Jie Ren, and **Mingyuan Zhou**, "Sawtooth factorial topic embeddings guided gamma belief network," in *ICML 2021: International Conference on Machine Learning*, July 2021. (Acceptance Rate: **22%**)

78. Zhibin Duan, Hao Zhang, Chaojie Wang, Zhengjue Wang, Bo Chen, and **Mingyuan Zhou**, "EnsLM: Ensemble language model for data diversity by semantic clustering," in *ACL-IJCNLP 2021: The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing*, Aug. 2021.

79. Xinjie Fan, Qifei Wang, Junjie Ke, Feng Yang, Boqing Gong, and **Mingyuan Zhou**, "Adversarially adaptive normalization for single domain generalization," in *CVPR 2021: Conference on Computer Vision and Pattern Recognition*, June 2021. (Acceptance Rate: **23%**)

80. Mohammadreza Armandpour, Ali Sadeghian, Chunyuan Li, and **Mingyuan Zhou**, "Partition-guided GANs," in *CVPR 2021: Conference on Computer Vision and Pattern Recognition*, June 2021. (Acceptance Rate: **23%**)

81. Rahi Kalantari and **Mingyuan Zhou**, "Graph gamma process linear dynamical systems," in *AISTATS 2021: International Conference on Artificial Intelligence and Statistics*, 2021. (Acceptance Rate: **30%**)

82. Ali Lotfi Rezaabad, Rahi Kalantari, Sriram Vishwanath, **Mingyuan Zhou**, and Jonathan Tamir, "Hyperbolic graph embedding with enhanced semi-implicit variational inference," in *AISTATS 2021: International Conference on Artificial Intelligence and Statistics*, 2021. (Acceptance Rate: **30%**)

83. Xinjie Fan, Shujian Zhang, Korawat Tanwisuth, Xiaoning Qian, and **Mingyuan Zhou**, "Contextual dropout: An efficient sample-dependent dropout module," in *ICLR 2021: International Conference on Learning Representations*, 2021. (Acceptance Rate: **29%**)

84. Yuguang Yue, Zhendong Wang, and **Mingyuan Zhou**, "Implicit distributional reinforcement learning," in ***NeurIPS** 2020: Advances in Neural Information Processing Systems*, Dec. 2020. (Acceptance Rate: **20%**)

85. Xinjie Fan, Shujian Zhang, Bo Chen, and **Mingyuan Zhou**, "Bayesian attention modules," in ***NeurIPS** 2020: Advances in Neural Information Processing Systems*, Dec. 2020. (Acceptance Rate: **20%**)

86. Wenchao Chen, Chaojie Wang, Bo Chen, Yicheng Liu, Hao Zhang, and **Mingyuan Zhou**, "Bidirectional convolutional Poisson gamma dynamical systems," in ***NeurIPS** 2020: Advances in Neural Information Processing Systems*, Dec. 2020. (Acceptance Rate: **20%**)

87. Chaojie Wang, Hao Zhang, Bo Chen, Dongsheng Wang, Zhengjue Wang, and **Mingyuan Zhou**, "Deep relational topic modeling via graph Poisson gamma belief network," in ***NeurIPS** 2020: Advances in Neural Information Processing Systems*, Dec. 2020. (Acceptance Rate: **20%**)

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91. Arman Hasanzadeh, Ehsan Hajiramezanali, Shahin Boluki, **Mingyuan Zhou**, Nick Duffield, Krishna Narayanan, and Xiaoning Qian, "Bayesian graph neural networks with adaptive connection sampling," *International Conference on Machine Learning (**ICML** 2020)*, July 2020. (Acceptance Rate: **22%**)

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97. Hao Zhang, Chaojie Wang, Zhengjue Wang, Zhibin Duan, **Mingyuan Zhou**, and Bo Chen, "Learning dynamic hierarchical topic graph with graph convolutional network for document classification," *International Conference on Artificial Intelligence and Statistics (**AISTATS** 2020)*, Palermo, Sicily, Italy, June 2020.

98. Xinjie Fan, Yizhe Zhang, Zhendong Wang, and **Mingyuan Zhou**, "Adaptive correlated Monte Carlo for contextual categorical sequence generation," *International Conference on Learning Representations (**ICLR** 2020)*, Addis Ababa, Ethiopia, Apr. 2020. (Acceptance Rate: **27%**)

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105. Mingzhang Yin*, Yuguang Yue*, and **Mingyuan Zhou**, "ARSM: Augment-REINFORCE-swap-merge estimator for gradient backpropagation through categorical variables," *International Conference on Machine Learning (**ICML** 2019)*, Long Beach, CA, June 2019. (Acceptance Rate: **23%**) (* Equal contribution by the first two authors)

106. Chaojie Wang, Bo Chen, Sucheng Xiao, and **Mingyuan Zhou**, "Convolutional Poisson gamma belief network," *International Conference on Machine Learning (**ICML** 2019)*, Long Beach, CA, June 2019. (Acceptance Rate: **23%**)

107. Aaron Schein, Steven Wu, Alexandra Schofield, **Mingyuan Zhou**, and Hanna Wallach, "Locally private Bayesian inference for count modeling," *International Conference on Machine Learning (**ICML** 2019)*, Long Beach, CA, June 2019. (Acceptance Rate: **23%**)

108. Mingzhang Yin and **Mingyuan Zhou**, "ARM: Augment-REINFORCE-merge gradient for stochastic binary networks," *International Conference on Learning Representations (**ICLR** 2019)*, New Orleans, LA, May 2019. (Acceptance Rate: **33%**)

109. Rajat Panda, Ankit Pensia, Nikhil Mehta, **Mingyuan Zhou**, and Piyush Rai, "Deep Topic Models for Multi-label Learning," *International Conference on Artificial Intelligence and Statistics (**AISTATS** 2019)*, Naha, Okinawa, Japan, April 2019. (Acceptance Rate: **32%**)

110. **Mingyuan Zhou**, "Parsimonious Bayesian deep networks," *Neural Information Processing Systems (**NeurIPS** 2018)*, Montreal, Canada, Dec. 2018. (Acceptance Rate: **21%**)

111. Quan Zhang and **Mingyuan Zhou**, "Nonparametric Bayesian Lomax delegate racing for survival analysis with competing risks," *Neural Information Processing Systems (**NeurIPS** 2018)*, Montreal, Canada, Dec. 2018. (Acceptance Rate: **21%**)

112. He Zhao, Lan Du, Wray Buntine, and **Mingyuan Zhou**, "Dirichlet belief networks as structured topic prior," *Neural Information Processing Systems (**NeurIPS** 2018)*, Montreal, Canada, Dec. 2018. (Acceptance Rate: **21%**)

113. Dandan Guo, Bo Chen, Hao Zhang, and **Mingyuan Zhou**, "Deep Poisson gamma dynamical systems," *Neural Information Processing Systems (**NeurIPS** 2018)*, Montreal, Canada, Dec. 2018. (Acceptance Rate: **21%**)

114. Ehsan Hajiramezanali, Siamak Zamani Dadaneh, Alireza Karbalayghareh, **Mingyuan Zhou**, and Xiaoning Qian, "Bayesian multi-domain learning for cancer subtype discovery from next-generation sequencing count data," *Neural Information Processing Systems (**NeurIPS** 2018)*, Montreal, Canada, Dec. 2018. (Acceptance Rate: **21%**)

115. Bo Han, Jiangchao Yao, Gang Niu, **Mingyuan Zhou**, Ivor Tsang, Ya Zhang, and Masashi Sugiyama, "Masking: A new perspective of noisy supervision," *Neural Information Processing Systems (**NeurIPS** 2018)*, Montreal, Canada, Dec. 2018. (Acceptance Rate: **21%**)

116. Ayan Acharya, Joydeep Ghosh, and **Mingyuan Zhou**, "A dual Markov chain topic model for dynamic environments," *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD** 2018)*, London, UK, Aug. 2018. (Acceptance Rate: **10.9%**, Long Presentation, Research Track)

117. Mingzhang Yin and **Mingyuan Zhou**, "Semi-implicit variational inference," *International Conference on Machine Learning (**ICML** 2018)*, Stockholm, Sweden, July 2018. (Long Contributed Talk, Acceptance Rate: **8.6%**)

118. He Zhao, Lan Du, Wray Buntine, and **Mingyuan Zhou**, "Inter and intra topic structure learning with word embeddings," *International Conference on Machine Learning (**ICML** 2018)*, Stockholm, Sweden, July 2018. (Acceptance Rate: **25%**)

119. Hao Zhang, Bo Chen, Dandan Guo, and **Mingyuan Zhou**, "WHAI: Weibull hybrid autoencoding inference for deep topic modeling," *International Conference on Learning Representations (**ICLR** 2018)*, Vancouver, Canada, May 2018. (Acceptance Rate: **34%**)

120. Rahi Kalantari, Joydeep Ghosh, and **Mingyuan Zhou**, "Nonparametric Bayesian sparse graph linear dynamical systems," *Artificial Intelligence and Statistics (**AISTATS** 2018)*, Lanzarote, Canary Islands, Spain, April 2018. (Acceptance Rate: **33%**)

121. Chaojie Wang, Bo Chen, and **Mingyuan Zhou**, "Multimodal Poisson gamma belief network," *AAAI Conference on Artificial Intelligence (**AAAI** 2018)*, New Orleans, LA, Feb. 2018. (Acceptance Rate: **25%**)

122. Yulai Cong, Bo Chen, Hongwei Liu, and **Mingyuan Zhou**, "Deep latent Dirichlet allocation with topic-layer-adaptive stochastic gradient Riemannian MCMC," *International Conference on Machine Learning (**ICML** 2017)*, Sydney, Australia, Aug. 2017. (Acceptance Rate: **25%**)

123. Aaron Schein, **Mingyuan Zhou**, and Hanna Wallach, "Poisson–gamma dynamical systems," *Neural Information Processing Systems (**NIPS** 2016)*, Barcelona, Spain, Dec. 2016. (Acceptance Rate: **2.0%**, Oral Presentation)

124. Aaron Schein, **Mingyuan Zhou**, David M. Blei, and Hanna Wallach, "Bayesian Poisson Tucker decomposition for learning the structure of international relations," *International Conference on Machine Learning (**ICML** 2016)*, New York City, NY, June 2016. (Acceptance Rate: **24%**)

125. **Mingyuan Zhou**, Yulai Cong, and Bo Chen, "The Poisson gamma belief network," *Neural Information Processing Systems (**NIPS** 2015)*, Montreal, CA, Dec. 2015. (Acceptance Rate: **22%**)

126. A. Acharya, D. Teffer, J. Henderson, M. Tyler, **M. Zhou**, and J. Ghosh, "Gamma process Poisson factorization for joint modeling of network and documents," *European Conference on Machine Learning (**ECML** 2015)*, Porto, Portugal, Sept. 2015.

127. **Mingyuan Zhou**, "Nonparametric Bayesian matrix factorization for assortative networks," *European Signal Processing Conference (**EUSIPCO**)*, Sept. 2015. (Invited special session paper)

128. **Mingyuan Zhou**, "Infinite edge partition models for overlapping community detection and link prediction," *Journal of Machine Learning Research W&CP, **AISTATS***, vol. 38, May. 2015. (Acceptance Rate: **27%**)

129. Ayan Acharya, Joydeep Ghosh, and **Mingyuan Zhou**, "Nonparametric Bayesian factor analysis for dynamic count matrices," *Journal of Machine Learning Research W&CP, **AISTATS***, vol. 38, May. 2015. (Acceptance Rate: **27%**)

130. **Mingyuan Zhou**, "Beta-negative binomial process and exchangeable random partitions for mixed-membership modeling," *Neural Information Processing Systems (**NIPS** 2014)*, Montreal, CA, Dec. 2014. (Acceptance Rate: **25%**)

131. **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)

132. **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)

133. **Mingyuan Zhou**, Lauren Hannah, David Dunson, and Lawrence Carin, "Beta-negative binomial process and Poisson factor analysis," *Journal of Machine Learning Research W&CP, **AISTATS***, vol. 22, pp. 1462-1471, Apr. 2012 (Acceptance Rate: **33%**)

134. Xu Chen, **Mingyuan Zhou** and Lawrence Carin, "The contextual focused topic model," *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD** 2012)*, Beijing, China, Aug. 2012. (Acceptance Rate: **18%**, Full Paper, Research Track)

135. 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%**)

136. 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%**)

137. **Mingyuan Zhou**, Hongxia Yang, Guillermo Sapiro, David Dunson, and Lawrence Carin, "Dependent hierarchical beta process for image interpolation and denoising," *Journal of Machine Learning Research W&CP, **AISTATS***, vol. 15, pp. 883-891, Apr. 2011. (Acceptance Rate: **8.1%**, Oral Presentation)

138. **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)

Refereed Journal Publications

139. Yucheng Wang, **Mingyuan Zhou**, and Xiaoning Qian, "Hashing with uncertainty quantification via sampling-based hypothesis testing," *Transactions on Machine Learning Research*, 2024

140. Rohit Unni, **Mingyuan Zhou**, Peter R Wiecha, and Yuebing Zheng, "Advancing materials science through next-generation machine learning," *Current Opinion in Solid State and Materials Science*, vol. 30, p. 101157, 2024

141. Cabello et al., "Brucella-driven host n-glycome remodeling controls infection," *Cell Host & Microbe*, vol. 32, no. 4, pp. 588–605, 2024

142. Ruiying Lu, Bo Chen, Dandan Guo, Dongsheng Wang, and **Mingyuan Zhou**, "Hierarchical topic-aware contextualized transformers," *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, pp. 1–12, 2023

143. Quan Zhang, Yanxun Xu, Mei-Cheng Wang, and **Mingyuan Zhou**, "Weibull racing survival analysis with competing events, left truncation, and time-varying covariates," *Journal of Machine Learning Research*, vol. 24, no. 295, pp. 1–43, 2023.

144. Huangjie Zheng, Xu Chen, Jiangchao Yao, Hongxia Yang, Chunyuan Li, Ya Zhang, Hao Zhang, Ivor Tsang, Jingren Zhou, and **Mingyuan Zhou**, "Contrastive attraction and contrastive repulsion for representation learning," *Transactions on Machine Learning Research*, 2023.

145. Haoran Zhang, Miranda V Hunter, Jacqueline Chou, Jeffrey F Quinn, **Mingyuan Zhou**, Richard M White, and Wesley Tansey, "BayesTME: An end-to-end method for multiscale spatial transcriptional profiling of the tissue microenvironment," *Cell Systems*, vol. 14, no. 7, pp. 605–619, 2023.

146. Chaojie Wang, Bo Chen, Zhibin Duan, Wenchao Chen, Hao Zhang, and **Mingyuan Zhou**, "Generative text convolutional neural network for hierarchical document representation learning," *IEEE Transactions on Pattern Analysis & Machine Intelligence*, no. 01, pp. 1–17, 2022.

147. Dandan Guo, Ruiying Lu, Bo Chen, Zequn Zeng, and **Mingyuan Zhou**, "Matching visual features to hierarchical semantic topics for image paragraph captioning," *International Journal of Computer Vision*, pp. 1–18, 2022.

148. Wenchao Chen, Bo Chen, Yicheng Liu, Chaojie Wang, Xiaojun Peng, Hongwei Liu, and Mingyuan Zhou, "Infinite switching dynamic probabilistic network with Bayesian nonparametric learning," *IEEE Transactions on Signal Processing*, vol. 70, pp. 2224–2238, 2022.

149. Cramer et al., "Evaluation of individual and ensemble probabilistic forecasts of COVID-19 mortality in the united states," *Proceedings of the National Academy of Sciences*, vol. 119, no. 15, p. e2113561119, 2022.

150. Rohit Unni, Kan Yao, Xizewen Han, **Mingyuan Zhou**, and Yuebing Zheng, "A mixture-density-based tandem optimization network for on-demand inverse design of thin-film high reflectors," *Nanophotonics*, vol. 10, no. 16, pp. 4057–4065, 2021.

151. Hao Zhang, Chaojie Wang, Zhengjue Wang, Zhibin Duan, Bo Chen, **Mingyuan Zhou**, Ricardo Henao, and Lawrence Carin, "Learning hierarchical document graphs from multilevel sentence relations," *IEEE Transactions on Neural Networks and Learning Systems*, pp. 1–13, 2021.

152. Chaojie Wang, Bo Chen, Sucheng Xiao, Zhengjue Wang, Hao Zhang, Penghui Wang, Ning Han, and **Mingyuan Zhou**, "Multimodal Weibull variational autoencoder for jointly modeling image-text data," *IEEE Transactions on Cybernetics*, pp. 1–16, 2021.

153. Liangjian Wen, Haoli Bai, Lirong He, Yiji Zhou, **Mingyuan Zhou**, and Zenglin Xu, "Gradient estimation of information measures in deep learning," *Knowledge-Based Systems*, p. 107046, 2021.

154. Dandan Guo, Bo Chen, Wenchao Chen, Chaojie Wang, Hongwei Liu, and **Mingyuan Zhou**, "Variational temporal deep generative model for radar HRRP target recognition," *IEEE Transactions on Signal Processing*, vol. 68, pp. 5795–5809, 2020.

155. Wenyuan Li, Zichen Wang, Yuguang Yue, Jiayun Li, William Speier, **Mingyuan Zhou**, and Corey Arnold, "Semi-supervised learning using adversarial training with good and bad samples," *Machine Vision and Applications*, vol. 31, no. 6, pp. 1–11, 2020.

156. Hao Zhang, Bo Chen, Yulai Cong, Dandan Guo, Hongwei Liu, and **Mingyuan Zhou**, "Deep autoencoding topic model with scalable hybrid Bayesian inference," IEEE Transactions on Pattern Analysis and Machine Intelligence, 2020.

157. Siamak Zamani Dadaneh, **Mingyuan Zhou**, and Xiaoning Qian, "Bayesian negative binomial regression for differential expression with confounding factors," *Bioinformatics*, vol. 34, pp. 3349-3356, Oct. 2018.

158. Siamak Zamani Dadaneh, **Mingyuan Zhou**, and Xiaoning Qian, "Covariate-dependent negative binomial factor analysis of RNA sequencing data," *Bioinformatics*, vol. 34, pp. i61-i69, July 2018.

159. Quan Zhang and **Mingyuan Zhou**, "Permuted and augmented stick-breaking Bayesian multinomial regression," *Journal of Machine Learning Research*, vol. 18, pp. 1-33, Apr. 2018.

160. Fangzheng Xie, **Mingyuan Zhou**, and Yanxun Xu, "BayCount: A Bayesian decomposition method for inferring tumor heterogeneity using RNA-Seq counts," *Annals of Applied Statistics*, vol. 12, no. 3, pp. 1605-1627, 2018.

161. **Mingyuan Zhou**, "Nonparametric Bayesian negative binomial factor analysis," *Bayesian Analysis*, vol. 13, no. 4, pp. 1061-1089, 2018.

162. Siamak Zamani Dadaneh, Xiaoning Qian, and **Mingyuan Zhou**, "BNP-Seq: Bayesian nonparametric differential expression analysis of sequencing count data," *Journal of the American Statistical Association (Applications and Case Studies)*, vol. 113, no. 521, pp. 81-94, 2018.

163. Yulai Cong, Bo Chen, and **Mingyuan Zhou**, "Fast simulation of hyperplane-truncated multivariate normal distributions," *Bayesian Analysis*, vol. 12, pp. 1017-1037, 2017.

164. **Mingyuan Zhou**, Stefano Favaro, and Stephen G Walker, "Frequency of frequencies distributions and size dependent exchangeable random partitions," *Journal of the American Statistical Association (Theory and Methods)*, vol. 112, no. 520, pp. 1623-1635, 2017.

165. **Mingyuan Zhou**, Yulai Cong, and Bo Chen, "Augmentable gamma belief networks," *Journal of Machine Learning Research*, vol. 17, pp. 1-44, Sept. 2016.

166. **Mingyuan Zhou**, Oscar Hernan Madrid Padilla, and James G. Scott, "Priors for random count matrices derived from a family of negative binomial processes," *Journal of the American Statistical Association (Theory and Methods)*, vol. 111, pp. 1144-1156, 2016.

167. Gungor Polatkan, **Mingyuan Zhou**, Lawrence Carin, David Blei, and Ingrid Daubechies, "A Bayesian nonparametric approach to image super-resolution," *IEEE Trans. Pattern Analysis and Machine Intelligence*, vol. 37, pp. 346-358, Feb. 2015.

168. **Mingyuan Zhou** and Lawrence Carin, "Negative binomial process count and mixture modeling," *IEEE Trans. Pattern Analysis and Machine Intelligence*, vol. 37, pp. 307-320, Feb. 2015.

169. D. Carlson, J. Vogelstein, Q. Wu, W. Lian, **M. Zhou**, C. R. Stoetzner, D. Kipke, D. Weber, D. Dunson and L. Carin, "Multichannel electrophysiological spike sorting via joint dictionary learning and mixture modeling," *IEEE Trans. Biomedical Engineering*, vol. 61, pp. 41-54, Jan. 2014.

170. 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.

171. **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.

172. 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.

173. **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.

174. **Mingyuan Zhou** and Xiaojun Qiu, "An error path delay compensated delayless subband adaptive filter architecture," *Signal Processing*, vol. 87, pp. 2640-2648, Nov. 2007.

Other Refereed Publications

175. 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.

176. **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.

177. **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].

178. 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.

179. **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.

180. 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.

181. **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.

182. **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.

183. 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.

184. **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.

185. **Mingyuan Zhou** and Xiaodong Li, "Acoustic echo suppression for Bluetooth earphone (in Chinese)," Technical Report, 2007.

186. **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.

187. **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.

188. **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)**

Teaching

Fall 2024, STA235 Data Science for Business Applications, five two-hour sections

Spring 2024, BAX 375: Business Analytics in Practice

Fall 2022, STA235 Data Science for Business Applications, four two-hour sections

Fall 2021, STA235 Data Science for Business Applications, four two-hour sections

Spring 2020, Advanced Data Mining and Web Analytics, graduate-level course

Fall 2019, Bayesian Deep Learning, graduate-level course

Fall 2019, STA371G Statistics and Modeling, two sections

Fall 2018, STA371G Statistics and Modeling, two sections

Spring 2018, STA380 Bayesian Methods for Machine Learning, graduate-level course

Fall 2017, STA371G Statistics and Modeling, two sections

Spring 2017, STA371G Statistics and Modeling, two sections

Spring 2016, STA371G Statistics and Modeling, three sections

Spring 2015, STA371G Statistics and Modeling, three sections

Spring 2014, STA371G Statistics and Modeling, two sections

Duke-Tsinghua Machine Learning Summer School: Deep Learning for Big Data, Kunshan, China, Aug. 2016.

Machine Learning Summer School, Austin, TX, Jan. 2015.

Honors and Awards

- Research Excellence Award for Associate Professors, McCombs School of Business, April 2023
- McCombs Research Excellence Grant, December 2022
- Highlighted Area Chair for ICLR 2022, April 2022
- Outstanding Area Chair for ICLR 2021, May 2021
- McCombs Research Excellence Grant, November 2018
- CBA Foundations Research Excellence Award for Assistant Professors, April 2018
- NSF@ISBA junior travel support, ISBA World Meeting 2016
- Best Student Poster Award in NIPS 2015 Workshop: Networks in the Social and Information Sciences
- NIPS travel award, 2012, 2009.
- ECE Ph.D. Student Fellowship, Duke University, 2008.
- Excellent Student Award in the 2006-2007 Academic Year, Chinese Academy of Sciences, 2007.
- Best Undergraduate Thesis Award 2nd Prize, Education Department of Jiangsu Province, 2005.
- Best Paper Award for the 2005 Chinese Young Researchers' Conference on Acoustics, Acoustical Society of China, 2005.
- National Undergraduate Electronic Design Contest – 2004 Embedded System Design Invitational Contest (Intel Cup) 3rd Prize, Higher Education Department of Ministry of Education and Personnel Department of Ministry of Information Industry, 2004.
- Excellent Undergraduate Student Award, Nanjing University, 2004.
- Excellent Student in the 2002-2003 Academic Year, Nanjing University, 2003.
- Robert Mundell Scholarship (highest award), Nanjing University, 2004.
- Renmin Scholarship, 1st Prize, Nanjing University, 2003.
- Renmin Scholarship, 2nd Prize, Nanjing University, 2002.

Funding Support

Apple Gift Fund, September 2024

NIH grant

- Title: Probabilistic Multiscale Modeling of the Tumor Microenvironment
- PI: Wesley Tansey, Co-PI: Mingyuan Zhou
- UT receives $500,839 over five years (1/1/2023-12/31/2027)

UT Austin Machine Learning Lab grant, November 2022

- Title: Accelerating Diffusion Probabilistic Models

NSF grant #2212418 is funded by the Information Integration and Informatics (III) Program

- Title: Collaborative Research: III: Medium: Conditional Transport: Theory, Methods, Computation, and Applications
- PI: Mingyuan Zhou, Co-PI: Xiaoning Qian
- The PI receives $600,000 over four years (10/1/2022 to 9/30/2026)

NSF grant #1952193 is funded by the Smart and Connected Communities (S&CC) Program

- Title: SCC-PG: ECET: Empowering Community-centric Electrified Transportation
- PI: Hao Zhu, Co-PIs: Varun Rai, Mingyuan Zhou, Junfeng Jiao, and Andrew Waxman

– The team receives $150,000 over one year (7/1/2020 to 6/30/2021)

NSF grant #1812699 is funded by the Information Integration and Informatics (III) Program

– Title: III: Small: Collaborative Research: Combinatorial Collaborative Clustering for Simultaneous Patient Stratification and Biomarker Identification

– PI: Mingyuan Zhou, Co-PI: Xiaoning Qian

– The PI receives $249,999 over three years (8/15/2018 to 7/31/2021)

ByteDance Gift Fund, April 2020

NVIDIA GPU Grant (donation of a Titan XP GPU), 2018

Professional Activities

Journal Editorial Board:

– Journal of Machine Learning Research (JMLR), Action Editor, 2021–Present

Conference (Senior) Area Chair:

– ICLR 2019 – 2025 (Area Chair)

– ICML 2021 – 2024 (Area Chair)

– NeurIPS 2017 – 2022, 2024 (Area Chair)

– AAAI 2020 & 2021 (Area Chair, a.k.a. senior meta reviewer), AAAI 2019 (Senior Program Committee Member)

Grant Review Panels:

– NSF Robust Intelligence panel, 2022

Reviewer/Program Committee Member:

– IIT-Kanpur, tenure promotion external reviewer, 2019

– ICLR 2018

– NeurIPS 2012-2016

– ICML 2012-2017, 2018 (Outstanding Reviewer)

– AISTATS 2014-2018

– IJCAI 2015 (Machine Learning Track), 2016

– Journal of the American Statistical Association

– Journal of Machine Learning Research

– Annals of Applied Statistics

– Bayesian Analysis

– Statistical Science

– Machine Learning

– IEEE Transactions on Pattern Analysis and Machine Intelligence

– IEEE Transactions on Signal Processing

– IEEE Transactions on Image Processing

– IEEE Transactions on Knowledge and Data Engineering

– Journal of Selected Topics in Signal Processing

– SIAM Journal on Imaging Sciences

– Production and Operations Management

– 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
- Sankhya A, the Indian Journal of Statistics

Award Committee and Professional Organization:

- Member of ISBA Savage Award committee (2023)
- Member of the ICLR 2021 Outstanding Paper Award Committee
- ISBA Section on Bayesian Nonparametrics, Treasurer (2018-2019)
- Member of the 2017 ISBA Mitchell Prize Committee

Services at UT:

- SDS faculty hiring committee (scientific machine learning), member, 2024-2025
- SDS Ph.D. annual progress review committee, member, 2024
- IROM statistics-track Ph.D. coordinator, since October 2017
- IROM Use-Inspired AI PhD admissions committee, member, 2023-2024, 2024-2025
- Fall 2024 SDS PhD admissions committee, member, 2023-2024
- The School of Undergraduate Studies Independent Inquiry Flag Committee, member, 2020-2023
- Tenure promotion review committee for Prof. Jared Murray, member, Summer 2023
- Post-tenure review committee for Prof. Paul Damien, member, 2022-2023
- Peer-teaching observation for Prof. Paul Damien, Fall 2022
- Fall 2023 SDS PhD admissions committee, member, 2022-2023
- Post-tenure review committee for Prof. Tom Shively, member, 2021-2022
- McCombs Undergraduate Program Committee, member, since October 2022
- 2022-2023 IROM Seminar Series (stats-track), Organizer
- IROM Executive Committee, June 2021–May 2023
- Tenure promotion review committee for Prof. Deepayan Chakrabarti, member, Summer 2021
- Course design committee for "Predictive Analytics," a core course for the Business Analytics (BAX) major, member, 2020-2021
- Third-year review committee for Prof. Jared Murray, member, October 2020
- McCombs Analytic Task force, member, 2020
- SDS PhD in Statistics Curriculum/Oversight Committee, member, Academic Year 2020-2021
- IROM Business Analytics (one open-rank, one assistant professor position) faculty search committee, member, 2019-2020
- IROM Statistics (Casual Inference) faculty search committee, member, 2019-2020
- SDS (three open-rank positions) faculty search committee, member, 2019-2020
- 2017 Spring Semester Statistics Seminar, Organizer
- Judge for IROM 2016 doctoral seminar competition, October 2016
- 2016 Fall Semester Statistics Seminar, Organizer
- 2014 Spring Semester Statistics Seminar, Organizer

PhDs Supervised and Chaired (graduated):

- Xizewen Han, PhD in Statistics and Data Sciences, graduated in 2024, Thesis title: "Classification and Regression Diffusion Models and Tree-based Extensions," joining a Start-Up in Sports Analytics
- Zhendong Wang, PhD in Statistics and Data Sciences, graduated in 2024, Thesis title: "Enhancing Generative Model Efficiency and Control for Data Generation, Reinforcement Learning, and Robotics," Senior Researcher at Microsoft
- Yilin He, PhD in Statistics, IROM, graduated in 2024, Thesis title: "Advancing Representation Learning and Data Generation on Graphs with Bayesian Deep Learning Methodologies," Machine Learning Engineer at ByteDance
- Huangjie Zheng, PhD in Statistics and Data Sciences, graduated in 2024, Thesis title: "Implicit Distributional Matching at High Dimensionality," Research scientist at Apple Machine Learning Research
- Shujian Zhang, PhD in Statistics and Data Sciences, graduated in 2023, Thesis title: "Probabilistic Language Models with Model Efficiency and Data Efficiency," Research Scientist at Google DeepMind
- Korawat Tanwisuth, PhD in Statistics and Data Sciences, graduated in 2023, Thesis title: "A Prototype-oriented Framework for Deep Transfer Learning Applications," Software Engineer at Google
- Aleksandar Dimitriev, PhD in Statistics, IROM, graduated in 2022, Thesis title: "Gradient Estimation for Discrete Variables via Dependent Monte Carlo Samples," Software Engineer at Google
- Xinjie Fan, PhD in Statistics and Data Sciences, graduated in 2021, Thesis title: "Deep Neural Networks with Contextual Probabilistic Units," Software Engineer at Nuro, now at Tesla
- Yuguang Yue, PhD in Statistics and Data Sciences, graduated in 2021, Thesis title: "Boosting Deep Reinforcement Learning Algorithms with Deep Probabilistic Models," Machine Learning Engineer at Twitter, now Applied Scientist at Amazon
- Quan Zhang, PhD in Statistics, IROM, graduated in 2020, Thesis title: "Bayesian Modeling with Tractable Inference and Applications to Online Peer-to-Peer Lending," Assistant Professor at Broad College of Business, Michigan State University (started in Fall 2020)
- Mingzhang Yin, PhD in Statistics and Data Sciences, graduated in 2020, Thesis title: "Variational Methods with Dependence Structure," Postdoc at Columbia University and then Assistant Professor at University of Florida
- Maurice Diesendruck (co-chaired with Dr. Sinead Williamson), PhD in Statistics and Data Sciences, graduated in 2019, Data Scientist at Ojo Labs, now Senior Applied Scientist at Microsoft Research
- Carlos Pagani Zanini (co-chaired with Dr. Peter Müller), PhD in Statistics and Data Sciences, graduated in 2019, Professor Adjunto at Federal University of Rio de Janeiro, Brazil

PhDs Supervised and Chaired (in progress):

- Tianqi Chen, IROM PhD student, in progress
- Shentao Yang, IROM PhD student, in progress (expected graduation time: Spring 2025)
- Haorang Zhang (co-chaired with Dr. Wesley Tansey at Memorial Sloan Kettering Cancer Center), PhD student in Department of Computer Science, in progress

PhDs Supervised (Main Advisors to be Determined):

- Tianyu Chen, SDS PhD student, in progress
- Yi Gu, SDS PhD student, in progress
- Xinran Song, SDS PhD student, in progress

- Liyang Xie, SDS PhD student, in progress
- Yueqin Yin, IROM PhD student, in progress

PhDs Advised (Not as Main Advisor)

- In McCombs:
  - Xiaofan Li, IROM PhD student, graduated in 2020, Assistant Professor at National University of Singapore
  - Xinyin Hao, PhD student in Department of Marketing, graduated in 2019, Assistant Professor at University of Arizona
  - Lan Liang, PhD student in Department of Marketing, graduated in 2017, Assistant Professor at University of Colorado Denver
- In Statistics and Data Sciences (SDS), Computer Science (CS), Electrical and Computer Engineering (ECE), and Mechanical Engineering (ME):
  - Ayan Acharya, ECE, graduated in 2015
  - Hsing-Huan Chung, ECE, in progress
  - Zhiwen Fan, ECE, in progress
  - Yihao Feng, CS, graduated in 2022
  - Chengyue Gong, CS, graduated in 2024
  - Xinyu Gong, ECE, graduated in 2023
  - Xing Han, ECE, graduated in 2023
  - Yifan Jiang, ECE, graduated in 2024
  - Yanxin Li, SDS, graduated in 2022
  - Xinchao Liu, CS, graduated in 2024
  - Disha Makhija, ECE, graduated in 2024
  - Khai Nguyen, SDS, in progress
  - Mauricio Tec, SDS, graduated in 2022
  - Giorgio Paulon, SDS, graduated in 2021
  - Evan Ott, SDS, graduated in 2023
  - Li (Kelly) Kang, SDS, graduated in 2020
  - Mengjie Wang, SDS, graduated in 2023
  - Novin Ghaffari, SDS, graduated in 2019
  - Guy W. Cole, SDS, graduated in 2019
  - Oscar Hernan Madrid Padilla, SDS, graduated in 2017, Postdoc in UC-Berkeley, now Assistant Professor at UCLA
  - Rohit Unni, ME, graduated in 2024
  - Dilin Wang, CS, graduated in 2020
  - Lemeng Wu, CS, graduated in 2024
  - Mao Ye, CS, graduated in 2023
- Outside UT:
  - Mohammadreza Armandpour, Texas A&M University, PhD, graduated in 2022, Apple
  - Wenchao Chen, Xidian University, PhD, graduated in 2021, Associate Professor at Xidian University
  - Yulai Cong, Xidian University, PhD, graduated in 2017, Associate Professor at Sun Yat-sen University
  - Siamak Zamani Dadaneh, Texas A&M University, PhD, graduated in 2019, Data Scientist at Apple
  - Feiyang Huang, Memorial Sloan Kettering Cancer Center, PhD, in progress

* Dandan Guo, Xidian University, PhD, graduated in 2020, Professor at Jilin University
* Ehsan Hajiramezanali, Texas A&M University, PhD, graduated in 2020, AI Research Scientist at Genentech
* Aaron Schein, University of Massachusetts Amherst, PhD, graduated in 2019, Postdoc at Columbia University and then Assistant Professor at University of Chicago
* Long Tian, Xidian University, PhD, graduated in 2021, Lecture at Xidian University
* Chaojie Wang, Xidian University, PhD, graduated in 2021, AI Researcher at Skywork AI
* Dongsheng Wang, Xidian University, PhD, graduated in 2024, Lecture at Shenzhen University
* Hao Zhang, Xidian University, PhD, graduated in 2020, Associate Professor at Xidian University
* He Zhao, Monash University, PhD, graduated in 2019, Research Scientist at Data61, CSIRO

Invited/Contributed Talks:

- "Accelerating, Enhancing, and Securing Deep Generative Models with Score identity Distillation", Invited talk at Apple AIML, January 2025 (virtual presentation).
- "Accelerating, Enhancing, and Securing Deep Generative Models with Score identity Distillation", Invited talk at UCLA Department of Statistics and Data Science, Los Angeles, CA, December 2024.
- "Building Faster, Better, and Safer Deep Generative Models via Score identity Distillation," invited talk at the SDS Department Research Seminar Series, UT Austin, Oct. 2024.
- "Long and Short Guidance in Score identity Distillation for One-Step Text-to-Image Generation," Invited talk at The 7th International Conference on Econometrics and Statistics (EcoSta 2024), Beijing, July 2024.
- "Score identity Distillation: Exponentially Fast Distillation of Pretrained Diffusion Models for One-Step Generation," Invited talk at the Second Joint Conference on Statistics and Data Science of China, Kunming, Yunnan, July 2024.
- "Long and Short Guidance in Score identity Distillation for One-Step Text-to-Image Generation," Invited talk at 2024 International Workshop on Signal and Information Intelligent Learning and Processing, Xidian University, July 2024.
- "Score identity Distillation: Exponentially Fast Distillation of Pretrained Diffusion Models for One-Step Generation," Invited talk at the Department of Biostatistics at The University of Texas MD Anderson, hosted by Professor Chong Wu, Houston, TX, Apr. 2024.
- "Score identity Distillation: Exponentially Fast Distillation of Pretrained Diffusion Models for One-Step Generation," Invited talk at the Department of Statistics and Data Science at Yale University, hosted by Professors Zhuoran Yang and Ilias Zadik, New Haven, CT, Apr. 2024.
- "Learning to Jump: Thinning and Thickening Latent Counts as a General Method for Generative Modelin," invited talk at 2023 International Workshop on Signal and Information Intelligent Learning and Processing, Xidian University, July 2023 (virtual presentation).
- "Adaptive Diffusion-based Deep Generative Models," invited talk at 2022 INFORMS Annual Meeting, Indianapolis, IN, Oct. 2022.
- "Adaptive Diffusion-based Deep Generative Models," invited talk at 2022 International Workshop on Signal and Information Intelligent Learning and Processing, Xidian University, July 2022 (remote conference).
- "Adaptive Diffusion-based Deep Generative Models," invited talk at Laplace's Demon Webinar Series (A Seminar Series about Bayesian Machine Learning at Scale), hosted by Dr. Maxime Vono and Prof. Nicolas Chopin, July 2022 (remote talk).
- "Adaptive Diffusion-based Deep Generative Models," invited talk at Google Research, hosted by Dr. Boqing Gong, June 2022 (remote talk).

– "Adaptive Diffusion-based Deep Generative Models," invited talk at ML+X seminar series, Machine Learning Laboratory, UT Austin, May 2022.
– "Exploiting Chain Rule and Bayes' Theorem to Compare Probability Distributions," IROM Department Brown-Bag Seminar, University of Texas at Austin, Austin, TX, Apr. 2022.
– "Exploiting Chain Rule and Bayes' Theorem to Compare Probability Distributions," invited talk at 2021 International Workshop on Signal and Information Intelligent Learning and Processing, Xidian University, July 2021 (remote conference).
– "Exploiting Chain Rule and Bayes' Theorem to Compare Probability Distributions," invited talk in "New Methods for Bayesian Modeling and Computation," Member Invited Session at ISBA 2021 World Meeting, June 2021 (remote conference).
– "Comparing Probability Distributions with Conditional Transport," invited talk at VinAI Research Seminar Series, Hanoi, Vietnam, April 2021 (remote talk).
– "ACT: Asymptotic Conditional Transport," invited talk at the 2020 Arkansas Spring Lectures Series, University of Arkansas, Nov. 2020 (remote conference).
– "Implicit distributional reinforcement learning," invited talk at 2020 International Workshop on Signal and Information Intelligent Learning and Processing, Xidian University, Aug. 2020 (remote conference).
– "Augment-REINFORCE-swap-merge estimator for gradient backpropagation through discrete layers," invited talk at Texas A&M Conference on Advances in Data Science: Theory, Methods and Computation, College Station, TX, Sept. 2019.
– "Bayesian deep learning that goes beyond reparameterizable latent variables with explicit density functions," invited talk at Leaders & Innovators Seminar Series, Department of Electrical and Computer Engineering, Texas A&M University, hosted by Prof. Xiaoning Qian, College Station, TX, Mar. 2019.
– "AI & The Law: What Does or Does Not Compute (Technology: An AI Primer)," invited talk at November 2018 Meeting of The Honorable Lee Yeakel Intellectual Property American Inn of Court, The Headliners Club, Austin, TX, Nov. 2018.
– "ARM: Augment-REINFORCE-merge gradient for discrete latent variable models," invited talk at Institut de Recherche en Informatique de Toulouse, hosted by Prof. Cédric Févotte, Toulouse, France, July 2018.
– "Variational Bayesian methods beyond parametric and continuous assumptions," invited talk in the Workshop on Bayesian Nonparametrics for Signal and Image Processing, Organized by Pierre Chainais, Nicolas Dobigeon, Audrey Giremus, and François Caron, Bordeaux, France, July 2018.
– "Semi-implicit variational inference," invited talk at The 2018 ICSA Applied Statistics Symposium, New Brunswick, New Jersey, June 2018.
– "Semi-implicit variational inference," invited talk at the Department of Biostatistics, School of Public Health, University of Michigan, hosted by Prof. Jian Kang, Ann Arbor, MI, Mar. 2018.
– "Semi-implicit variational inference," IROM Department Brown-Bag Seminar, University of Texas at Austin, Austin, TX, Feb. 2018.
– "Some recent advances in Bayesian deep learning," invited talk at the Marketing Department Research Seminar Series, University of Texas at Austin, Austin, TX, Nov. 2017.
– "Permuted and augmented stick-breaking multinomial regression," invited talk at the 2017 INFORMS Marketing Science Conference, University of Southern California, Los Angeles, CA, June 2017.
– "Infinite convolutional of expert logistic regression," invited talk at ICSA 2016, ISBA invited session on "Theory and Applications of Bayesian Nonparametrics," Shanghai, Dec. 2016.
– "Permuted and augmented stick-breaking multinomial regression," invited talk in Latent Variables Conference 2016, session "Objective Bayes Analysis in Latent Variables Models," University of South Carolina, Columbia, SC, Oct. 2016.

– Invited instructor at "Duke-Tsinghua Machine Learning Summer School: Deep Learning for Big Data," Kunshan, China, Aug. 2016.

– "Gamma belief networks (deep latent Dirichlet allocation)," invited talk at International Society for Bayesian Analysis (ISBA) 2016 World Meeting, Sardinia, Italy, June 2016.

– "Gamma belief networks," School of Electronic Engineering, Xidian University, hosted by Prof. Bo Chen, Xi'an, China, Dec. 2015.

– "Gamma belief networks," Department of Computer Science and Technology, Tsinghua University, hosted by Professor Jun Zhu, Beijing, China, Dec. 2015.

– "Gamma belief networks," Institute of Acoustics, Chinese Academy of Sciences, hosted by Professors Xiaodong Li and Chengshi Zheng, Beijing, China, Dec. 2015.

– "The Poisson gamma belief network," invited talk at the 9th International Conference on Computational and Financial Econometrics (CFE 2015), University of London, UK, Dec. 2015.

– "Infinite vocabulary naive Bayes classifiers," invited talk at Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, Nov. 2015.

– "The Poisson gamma belief network," invited talk at The Collegio Carlo Alberto, Torino, Italy, Sept. 2015.

– "Nonparametric Bayesian matrix factorization for assortative networks," invited talk in 23rd European Signal Processing Conference, Nice, France, Sept. 2015.

– "Priors for random count matrices with random or fixed row sums," invited talk at the 10th Conference on Bayesian Nonparametrics, Raleigh, NC, June 2015.

– "Priors for random count matrices derived from a family of negative binomial processes," invited talk at the Conference of Texas Statisticians (COTS), Austin, TX, Apr. 2015.

– "Parametric Bayesian models," Machine Learning Summer School, Austin, TX, Jan. 2015.

– "Priors for random count matrices derived from a family of negative binomial processes," invited talk in ERCIM, Pisa, Italy, Dec. 2014.

– "Count-mixture modeling and exchangeable random partitions," Random Structures Seminar, Department of Mathematics, The University of Texas at Austin, Nov. 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.