

Michael Minyi Zhang

Curriculum Vitae

School of Computing and Data Science
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Academic Positions

2021–current	Assistant Professor. School of Computing and Data Science, University of Hong Kong.
2018–2020	Post-doctoral Researcher. Department of Computer Science, Princeton University. <i>Advisors: Barbara Engelhardt, Brandon Stewart.</i>

Education

2018	Ph.D. Statistics. The University of Texas at Austin. <i>Advisor: Sinead Williamson.</i>
2016	M.S. Statistics. The University of Texas at Austin. <i>Advisor: Sinead Williamson.</i>
2013	B.S. Statistics (Honors); B.A. Political Science (Honors and Distinction in Major); Minor in Russian. University of California, Santa Barbara. <i>Advisor: Cynthia Kaplan.</i>

Publications

- L. Lin, B. Saparbayeva, **M. M. Zhang**, and D. B. Dunson. “Accelerated algorithms for convex and non-convex optimization on manifolds.” *Machine Learning*, 114(52), 2025. ISSN: 1573-0565. arXiv: 2010.08908.
- T. Sha[†] and **M. M. Zhang**. “Online student- t processes with an overall-local scale structure for modelling non-stationary data.” 2025. arXiv: 2311.00564. To appear in AISTATS 2025.
- F. Fazeli-Asl[‡], **M. M. Zhang**, and L. Lin. “A semi-Bayesian nonparametric estimator of the maximum mean discrepancy measure: Applications in goodness-of-fit testing and generative adversarial networks.” *Transactions on Machine Learning Research*, 2024. ISSN: 2835-8856.
- Y. Li[◊], Z. Lin, F. Yin, and **M. M. Zhang**. “Preventing model collapse in Gaussian process latent variable models.” *International Conference on Machine Learning*, 235:28278–28308, 2024. ISSN: 2640-3498. arXiv: 2404.01697.
- Y. Li[◊], L. Cheng, F. Yin, **M. M. Zhang**, and S. Theodoridis. “Overcoming posterior collapse in variational autoencoders via EM-style training.” *IEEE International Conference on Acoustics, Speech and Signal Processing*, 2023. ISSN: 1520-6149. Accepted for oral presentation.
- M. M. Zhang**, B. Dumitrascu, S. A. Williamson, and B. E. Engelhardt. “Sequential Gaussian processes for online learning of nonstationary functions.” *IEEE Transactions on Signal Processing*, 71:1539–1550, 2023. ISSN: 1941-0476. arXiv: 1905.10003.
- M. M. Zhang**, S. A. Williamson, and F. Pérez-Cruz. “Accelerated parallel non-conjugate sampling for Bayesian non-parametric models.” *Statistics & Computing*, 32(50):1–25, 2022. ISSN: 1573-1375. arXiv: 1705.07178.
- G. W. Gundersen, **M. M. Zhang**, and B. E. Engelhardt. “Latent variable modeling with random features.” *Artificial Intelligence and Statistics*, 130:1333–1341, 2021. arXiv: 2006.11145. Joint first author.
- L.-F. Cheng, B. Dumitrascu, **M. M. Zhang**, C. Chivers, K. Li, and B. E. Engelhardt. “Personalized effects of medication on patients using latent force models with Gaussian processes.” *Artificial Intelligence and Statistics*, 108:4045–4055, 2020. arXiv: 1906.00226.

- A. Dubey, **M. M. Zhang**, E. P. Xing, and S. A. Williamson. “Distributed, partially collapsed MCMC for Bayesian nonparametrics.” *Artificial Intelligence and Statistics*, 108:3685–3695, 2020. arXiv: 2001.05591. Joint first author.
- S. A. Williamson, **M. M. Zhang**, and P. Damien. “A new class of time dependent latent factor models with applications.” *Journal of Machine Learning Research*, 21(27):1–24, 2020. arXiv: 1904.08548.
- F. Pérez-Cruz, P. M. Olmos, **M. M. Zhang**, and H. Huang. “Probabilistic time of arrival localization.” *IEEE Signal Processing Letters*, 26(11):1683–1687, 2019. ISSN: 1070-9908. arXiv: 1910.06569.
- M. M. Zhang** and S. A. Williamson. “Embarrassingly parallel inference for Gaussian processes.” *Journal of Machine Learning Research*, 20(169):1–26, 2019. arXiv: 1702.08420.
- B. Saparbayeva, **M. M. Zhang**, and L. Lin. “Communication efficient parallel algorithms for optimization on manifolds.” *Advances in Neural Information Processing Systems*, 31:3578–3588, 2018. arXiv: 1810.11155. Accepted as poster.
- M. M. Zhang**, H. Lam, and L. Lin. “Robust and parallel Bayesian model selection.” *Computational Statistics and Data Analysis*, 127:229–247, 2018. ISSN: 0167-9473. arXiv: 1610.06194.
- Z. I. Phillips, **M. M. Zhang**, and U. G. Müller. “Dispersal of *Attaphila fungicola* (Blattodea: Ectobiidae), a symbiotic cockroach of leafcutter ants (Hymenoptera: Formicidae).” *Insectes Sociaux*, 64(2):277–284, 2017. ISSN: 1420-9098.
- M. M. Zhang**, A. Dubey, and S. A. Williamson. “Parallel Markov chain Monte Carlo for the Indian buffet process.” 2015. arXiv: 1703.03457. “Bayesian Nonparametrics: The Next Generation” workshop paper.

Papers In Review

- F. Fazeli-Asl[†], **M. M. Zhang**, B. Jiang, and L. Kong. “A deep Bayesian nonparametric framework for robust mutual information estimation.” 2025. arXiv: 2503.08902. In review.
- X. Duan[◊] and **M. M. Zhang**. “Sparse data imputation with Bayesian non-linear factor analysis.” 2024. In submission.
- Y. Li[◊], Z. Lin, Y. Liu, **M. M. Zhang**, P. M. Olmos, and P. M. Djurić. “Scalable random feature latent variable models.” 2024. arXiv: 2410.17700. In review, revise and resubmit.
- Z. Yang[◊], Y. Li[◊], Z. Lin, **M. M. Zhang**, and P. M. Olmos. “Multi-view oriented GPLVM: Expressiveness and efficiency.” 2024. In review.
- F. Fazeli-Asl[†] and **M. M. Zhang**. “A Bayesian non-parametric approach to generative models: Integrating variational autoencoder and generative adversarial networks using Wasserstein and maximum mean discrepancy.” 2023. arXiv: 2308.14048. In review, revise and resubmit.
- Y. Li[◊], Z. Lin, K. Li, and **M. M. Zhang**. “Online/offline learning to enable robust beamforming: Limited feedback meets deep generative models.” 2023. arXiv: 2404.06055. In review, revise and resubmit.
- M. M. Zhang**, G. W. Gundersen, and B. E. Engelhardt. “Bayesian non-linear latent variable modeling via random Fourier features.” 2023. arXiv: 2306.08352. Joint first author. In review, revise and resubmit.
- M. M. Zhang**. “Sparse infinite random feature latent variable modeling.” 2022. arXiv: 2205.09909. In review.

[†] denotes an undergraduate student co-author. [◊] denotes a PhD student co-author. [‡] denotes a post-doctoral researcher co-author.

Funding

2021–2024	Massively Scalable Computation for Artificial Intelligence. Seed Fund for Basic Research for New Staff #104006118, University of Hong Kong. HKD \$150,000.
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Post-doctoral Supervision

2022–2024	Forough FAZELI-ASL. Placement: Post-doctoral Researcher at the University of Alberta.
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Doctoral Supervision

2024–current	XU Qiaochu.
2024–current	YANG Zi. <i>Co-Advisor: LI Guodong.</i>
2022–current	DUAN Xiuwen. “Sparse Data Imputation with Latent Variable Models”. <i>Co-Advisor: Eddy K.F. LAM.</i>
2022–current	LI Ying. “Variational Random Feature Latent Variable Models”. <i>Co-Advisor: YIN Guosheng.</i>

Doctoral Thesis Examiner

2025	ZHANG Hao. “Bayesian Activity Detection and Channel Estimation with Consistent Sparsity in Grant-free Access”. University of Hong Kong, Department of Electrical and Electronic Engineering.
2021	YANG Zebin. “Intrinsically Interpretable Machine Learning Models and Automated Hyperparameter Optimization”. University of Hong Kong, Department of Statistics and Actuarial Science.

Masters Thesis Examiner

2023	WANG Wenliang. “Two-dimensional Calibration-free Odds (2dCFO) Design for Phase I Drug-combination Trials”. University of Hong Kong, Department of Statistics and Actuarial Science.
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Teaching

Spring 2021-25	STAT4609 Big Data Analytics. University of Hong Kong.
Fall 2024	STAT2604 Introduction to Python Programming. University of Hong Kong.
Spring 2023-24	STAT4904 Statistical Learning for Risk Modeling. University of Hong Kong.
Fall 2022-24	STAT4710 Senior Capstone Project. University of Hong Kong.
Summer 2019	Intro to Python and NLP. Princeton AI4ALL.

Honors and Awards

2024	Sino-British Fellowship Trust Visitorship. The Sino-British Fellowship Trust.
2023	Travel Award. Bayesian Nonparametrics Networking Workshop 2023, ISBA.
2020	Travel Award. Bayes Comp 2020, ISBA.
2019	Travel Award. The 12th Conference on Bayesian Nonparametrics, ISBA.
2018	Travel Award. The 32nd Annual Conference on Neural Information Processing Systems.
2017	Travel Award. The 11th Conference on Bayesian Nonparametrics, ISBA.
2015	Bonus Fellowship for Continuing Students. The University of Texas at Austin.

Academic Service

2025	Member of Scientific Committee. Bayesian Young Statisticians Meeting, Junior ISBA.
2025–current	Area Chair. International Conference on Machine Learning.
2024–current	Area Chair. Artificial Intelligence and Statistics.
2024–current	Higher Degree Committee Member. School of Computing and Data Science, University of Hong Kong.
2024–current	Associate Editor. Statistics & Computing.
2022–current	Associate Director. Master of A.I. Program, University of Hong Kong.
2020–current	Editorial Board of Reviewers. Journal of Machine Learning Research.

Presentations

	Sequential Gaussian Processes for Online Learning of Nonstationary Functions.
Aug. 2025	Contributed talk at the 8th International Conference on Econometrics and Statistics.
Jun. 2025	Contributed talk at Bayes Comp 2025.
Jun. 2025	Contributed talk at the 14th International Conference on Bayesian Nonparametrics.
May 2025	Contributed talk at the 14th Workshop on Bayesian Inference in Stochastic Processes.
Mar. 2025	Contributed talk at the 7th Joint Statistical Meeting of the Deutsche Arbeitsgemeinschaft Statistik.
	A Semi-Bayesian Nonparametric Estimator of the Maximum Mean Discrepancy Measure.
Aug. 2024	Contributed talk at the Bayesian Nonparametrics Networking Workshop, ISBA.
Aug. 2024	Invited talk at the Bernoulli-IMS 11th World Congress.
	Bayesian Non-linear Latent Variable Modeling via Random Fourier Features.
Jul. 2024	Invited talk at the 2024 Joint Statistical Meeting.
Jul. 2024	Invited talk at the 2024 ISBA World Meeting.
May 2024	Invited talk at the Department of Mathematics, University of Maryland, College Park.
Jan. 2024	Invited talk at the Institute for Mathematical Statistics – Asia-Pacific Rim Meeting.
Dec. 2023	Invited talk at the Bayesian Nonparametrics Networking Workshop, ISBA.
	Latent Variable Modeling with Random Features.
Jun. 2023	Invited talk at the Swiss Data Science Center, ETH Zürich.
Jun. 2023	Invited talk at the Signal Processing Group, Charles III University of Madrid.
Jun. 2023	Invited talk at the Department of Data Science, EURECOM.
Mar. 2023	Invited talk at the Department of Statistics and Applied Probability, University of California, Santa Barbara.
Jan. 2023	Invited talk at the Approximate Bayesian Inference Team, RIKEN AIP.
Jan. 2023	Invited talk at the Institute of Statistical Mathematics.
Nov. 2022	Invited talk at the Department of Statistics, Pontificia Universidad Católica de Chile.
Sep. 2022	Invited talk at the Department of Statistics and Data Science, University of Texas at Austin.
Apr. 2021	Poster at the 24th International Conference on Artificial Intelligence and Statistics.

Professional Positions

2016	Summer Research Intern. Wireless Research for the Internet of Things, Nokia Bell Labs. <i>Supervisors: Fernando Pérez-Cruz, Howard Huang.</i>
2013–2014	Analyst. Rule14 LLC.

Personal Information and Skills

Technical	Python, Matlab, R.
Citizenship	United States.