Michael Minyi Zhang
Curriculum Vitae

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Academic Positions

2021–*current*	**Assistant Professor**. School of Computing and Data Science, University of Hong Kong.
Summer 2025	**Visitor**. Department of Computer Science, University College London. *Host: Marc Deisenroth.*
2018–2020	**Post-doctoral Researcher**. Department of Computer Science, Princeton University. *Advisors: Barbara Engelhardt, Brandon Stewart.*

Education

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

Publications

Y. Li$^{\diamond}$, Z. Lin, Y. Liu, **M. M. Zhang**, P. M. Olmos, and P. M. Djurić. "Scalable random feature latent variable models." *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 47(11):9813–9826, 2025. ISSN: 0162-8828. arXiv: 2410.17700.

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." *Artificial Intelligence and Statistics*, 258:1108–1116, 2025. arXiv: 2311.00564.

Z. Yang$^{\diamond}$, Y. Li$^{\diamond}$, Z. Lin, **M. M. Zhang**, and P. M. Olmos. "Multi-view oriented GPLVM: Expressiveness and efficiency." 2025. arXiv: 2502.08253. Accepted to NeurIPS 2025 as poster.

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$^{\diamond}$, 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$^{\diamond}$, 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

X. Duan[◇] and **M. M. Zhang**. "Sparse data imputation with Bayesian non-linear factor analysis." 2025. In review.

F. Fazeli-Asl[‡], **M. M. Zhang**, B. Jiang, and L. Kong. "A Bayesian nonparametric framework for private, fair, and balanced tabular data synthesis." 2025. 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.

Y. Li[◇], Z. Lin, Y. Liu, **M. M. Zhang**, and P. M. Djurić. "Gaussian process state-space models for irregularly sampled sequential data." 2025. In review.

A. M. Mahfoozi[†], Z. Yang[◇], Y. Li[◇], and **M. M. Zhang**. "Random feature Gaussian process attention: Linear-time probabilistic attention with calibrated uncertainty." 2025. In review.

Q. Xu[◇], Z. Yang[◇], Y. Li[◇], **M. M. Zhang**, and P. M. Olmos. "Revisiting nonstationary kernel design for multi-output Gaussian processes." 2025. 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

2025–*current* | **Novel Bayesian Learning Methods for Biologically-Inspired Interacting Systems.** Seed Fund for PI Research – Basic Research #2402101367, University of Hong Kong. HKD $73,840.

2021–2024 | **Massively Scalable Computation for Artificial Intelligence.** Seed Fund for Basic Research for New Staff #104006118, University of Hong Kong. HKD $150,000.

Post-doctoral Supervision

2022–2024 | **Forough FAZELI-ASL**.
Placement: Post-doctoral researcher at the University of Alberta.

Doctoral Supervision

2024–*current* | **XU Qiaochu**.

2024–*current* | **YANG Zi**. "Multi-View Oriented Gaussian Process Latent Variable Models: Expressiveness and Efficiency". *Co-Advisor: LI Guodong.*

2022–*current* | **DUAN Xiuwen**. "Sparse Data Imputation with Latent Variable Models". *Co-Advisor: Eddy K.F. LAM.*

2022–*current* | **LI Ying**. "Variational Random Feature Latent Variable Models". *Co-Advisor: YIN Guosheng.*

Doctoral Thesis Examiner

2025 | **ZHANG Hao**. "Bayesian Activity Detection and Channel Estimation with Consistent Sparsity in Grant-free Access".

2021 | **YANG Zebin**. "Intrinsically Interpretable Machine Learning Models and Automated Hyperparameter Optimization".

Masters Thesis Examiner

2023 | **WANG Wenliang**. "Two-dimensional Calibration-free Odds (2dCFO) Design for Phase I Drug-combination Trials".

Teaching

Fall 2024–*current* | **STAT2604 Introduction to Python Programming.** University of Hong Kong.

Fall/Spring 2022–*current* | **STAT4710 Senior Capstone Project.** University of Hong Kong.

Spring 2021–*current* | **STAT4609 Big Data Analytics.** University of Hong Kong.

Spring 2023–2024 | **STAT4904 Statistical Learning for Risk Modeling.** University of Hong Kong.

Summer 2019 | **Intro to Python and NLP.** Princeton AI4ALL.

Honors and Awards

2024 | **Visitorship Award**. The Sino-British Fellowship Trust.

2015 | **Bonus Fellowship for Continuing Students**. The University of Texas at Austin.

Academic Service

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

Presentations

	Sequential Gaussian Processes for Online Learning of Nonstationary Functions.
Aug. 2025	Contributed talk at the 8th International Conference on Econometrics and Statistics.
Aug. 2025	Invited talk at the School of Mathematics, University of Edinburgh.
Jun. 2025	Contributed talk at Bayes Comp 2025.
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 Deep Bayesian Nonparametric Framework for Robust Mutual Information Estimation.
Jun. 2025	Contributed talk at the 14th International Conference on Bayesian Nonparametrics.
	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. *Supervisors: Fernando Pérez-Cruz, Howard Huang.*
2013–2014	**Analyst**. Rule14 LLC.

Personal Information and Skills

Technical	Python, Matlab, R.
Citizenship	United States.