MINGZHANG YIN

Research areas: Marketing ◇ Bayesian Statistics ◇ Machine Learning ◇ Causal Inference
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EMPLOYMENT

Assistant Professor, Marketing Department, Warrington College of Business,
The University of Florida — August 2022 -

Postdoctoral Research Scientist, Data Science Institute,
Columbia University — July 2020 - August 2022
Mentor: Prof. David M. Blei

EDUCATION

Ph.D. Statistics, The University of Texas at Austin — 2015 - 2020
Thesis advisor: Prof. Mingyuan Zhou

B.Sc. Mathematics and Applied Mathematics, Fudan University — 2011 - 2015
Undergraduate Thesis Advisor: Prof. Zhijie Cai

Exchange student, North Carolina State University — 2013

PUBLICATIONS

* = Equal contribution

- **Mingzhang Yin**, Claudia Shi, Yixin Wang, David M. Blei. "Conformal Sensitivity Analysis for Individual Treatment Effects." Journal of the American Statistical Association (JASA-T&M), 2022
- Wenshuo Guo, **Mingzhang Yin**, Yixin Wang, Michael I. Jordan. "Partial Identification with Noisy Covariates: A Robust Optimization Approach." Conference on Causal Learning and Reasoning (CLeaR), 2021.
- **Mingzhang Yin**, George Tucker, Mingyuan Zhou, Sergey Levine and Chelsea Finn. "Meta-Learning without Memorization." International Conference on Learning Representations (ICLR), **Spotlight**, 2020.
- Yuguang Yue, Yunhao Tang, **Mingzhang Yin** and Mingyuan Zhou. "Discrete Action On-Policy Learning with Action-Value Critic." International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.
- **Mingzhang Yin**, YX Rachel Wang and Purnamrita Sarkar. "A Theoretical Case Study of Structured Variational Inference for Community Detection." International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.
- Siamak Zamani Dadaneh, Shahin Boluki, **Mingzhang Yin**, Mingyuan Zhou and Xiaoning Qian. "Pairwise Supervised Hashing with Bernoulli Variational Auto-Encoder and Self-Control Gradient Estimator." The Conference on Uncertainty in Artificial Intelligence (UAI), 2020
- **Mingzhang Yin***, Yuguang Yue* and Mingyuan Zhou. (*equal contribution) "ARSM: Augment-REINFORCE-Swap-Merge Estimator for Gradient Backpropagation Through Categorical Variables." International Conference on Machine Learning (ICML) 2019.
- **Mingzhang Yin** and Mingyuan Zhou. "ARM: Augment-REINFORCE-Merge Gradient for Stochastic Binary Networks." International Conference on Learning Representations (ICLR), 2019.

- **Mingzhang Yin** and Mingyuan Zhou. "Semi-implicit Variational Inference." International Conference on Machine Learning (ICML), **Long Talk**, 2018.
- **Mingzhang Yin** and Mingyuan Zhou. "Semi-Implicit Generative Model." Bayesian Deep Learning Workshop, NeurIPS 2018.
- Bowei Yan, **Mingzhang Yin** and Purnamrita Sarkar. "Convergence of Gradient EM for Multi-component Gaussian Mixture." Conference on Neural Information Processing Systems (NeurIPS) 2017.

PAPERS IN SUBMISSION

- Zhendong Wang*, Ruijiang Gao*, **Mingzhang Yin***, Mingyuan Zhou, David M. Blei. "Probabilistic Conformal Prediction Using Conditional Random Samples." arXiv 2206.06584, 2022; Short version accepted by DFUQ Workshop, **Spotlight**, ICML 2022.
- **Mingzhang Yin**, Yixin Wang, David M. Blei. "Optimization-based Causal Estimation from Heterogenous Environments." In submission, Journal of Machine Learning Research (JMLR); arXiv 2109.11990, 2021; Short version accepted by SCIS Workshop, ICML 2022.
- **Mingzhang Yin**, Nhat Ho, Bowei Yan, Xiaoning Qian, Mingyuan Zhou. "Probabilistic Best Subset Selection via Gradient-Based Optimization." In submission, Journal of Machine Learning Research (JMLR); arXiv 2006.06448, 2020.

PROFESSIONAL EXPERIENCE

Research Intern, Google Research, Brain Team, Mountain View, CA — May 2019–August 2019
Supervisor: Drs. George Tucker and Chelsea Finn

Research Intern, Quantlab Financial LLC, Houston, TX — June 2017–August 2017
Supervisor: Dr. Joe Masters

Data Science Intern, HP Lab, Austin, TX — June 2016–August 2016
Supervisor: Dr. Lakshminarayan Choudur

RECENT TALKS/PRESENTATIONS

- Poster. "Optimization-Based Causal Estimation from Heterogeneous Environments", ACIC conference, Berkeley, CA — May 2022
- Invited talk. "Partial Identification of Causal Effects via a Modern Optimization Lens", Econometrics Seminar, Boston University — Mar. 2022
- Colloquium talk. Department of Quantitative Theory & Methods, Emory University — Feb. 2022
- Colloquium talk. Warrington College of Business, University of Florida — Jan. 2022
- Colloquium talk. Department of Statistics, Texas A&M University — Jan. 2022
- Colloquium talk. Department of Statistics, Iowa State University — Jan. 2022
- Colloquium talk. University of Notre Dame, Department of Applied and Computational Mathematics and Statistics — Jan. 2022.
- Colloquium talk. University of Iowa, Tippie College of Business — Dec. 2021.
- Invited talk. "Machine Learning with Heterogeneous Datasets", Machine Learning Seminar, Microsoft Research, Cambridge, MA — Oct. 2021
- Invited talk. "Semi-Implicit Variational Inference" *AI/ML Seminar Series*, Center for Machine Learning and Intelligent Systems, University of California, Irvine — Feb. 2020

- Invited talk. "The Big Problem with Meta-Learning and How Bayesians Can Fix It, *Bayesian Deep Learning Workshop*, Vancouver Dec. 2019
- Short presentation. "Efficient Discrete Optimization with Correlated Samples", *ICML*, Long Beach June 2019
- Seminar talk. "Antithetic Sampling and Control Variates in Learning Binary Networks", *UT Austin Statistics Seminar*, Austin Dec. 2018
- Long presentation. "Black-box Variational Inference and Uncertainty Estimation", *ICML*, Stockholm July 2018

SERVICE

Conference reviewing: NeurIPS 2017–2022; ICML 2019–2022; ICLR 2018–2022; AISTATS 2018, 2021; UAI 2019–2022; ACML 2018; AAAI 2018

Journal reviewing: Annals of Applied Statistics; TMLR; IEEE TPAMI; JMLR; IEEE Trans. Signal Process

Member: American Statistical Association (ASA), 2015–present; International Society for Bayesian Analysis (ISBA), 2019–present

TEACHING AND ADVISING EXPERIENCE

Teaching Assistant, Introduction to Probability and Statistics	Fall 2017, Fall 2019
Teaching Assistant, Bayesian Statistical Methods	Spring 2016, Spring 2017
Teaching Assistant, Statistics in Market Analysis	Fall 2015, Spring 2016, Spring 2018
Teaching Assistant, Design and Analysis of Experiments	Spring 2017
Teaching Assistant, Linear Algebra	Fall 2018
Teaching Assistant, Bayesian deep learning	Spring 2019
Undergraduate Mentorship, Directed Reading Program, UT Math Department	Fall 2018, Spring 2019

SELECTED AWARDS AND HONORS

Graduate School Professional Development Award	2017, 2019
Google Archimedes Award	2019
The Graduate Continuing Bruton Fellowship	2018, 2019
Travel Award, ICLR	2019
Travel Award, ICML	2018, 2019
Travel Award, NeurIPS	2017
Leo Tang Hsiang-chien Scholarship	2014
1^{st} Prize in China Mathematical Olympiad	2011