MINGZHANG YIN

Research areas: Bayesian Statistics ⋄ Machine Learning ⋄ Causal Inference ⋄ Marketing

STZ 260 ⋄ 1454 Union Rd. ⋄ Gainesville, FL 32611

+1 352 273 3274 ⋄ mingzhang.yin@warrington.ufl.edu ⋄ `https://mingzhang-yin.github.io`

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

APPOINTMENTS

Assistant Professor   August 2022 -

Department of Marketing, Warrington College of Business

The University of Florida

Postdoctoral Research Scientist   2020 - 2022

Data Science Institute, Columbia University

Mentor: Profs. David M. Blei and Simon Tavaré

AFFILIATION

Department of Statistics (courtesy appointment)	2023 -
Artificial Intelligence Academic Initiative (AI^2)Center	2023 -
Intelligent Critical Care Center (IC^3)	2023 -

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

- Zhendong Wang*, Ruijiang Gao*, **Mingzhang Yin***, Mingyuan Zhou, David M. Blei. "Probabilistic Conformal Prediction Using Conditional Random Samples." International Conference on Artificial Intelligence and Statistics (AISTATS), 2023; Short version accepted by DFUQ Workshop, **Spotlight**, ICML 2022.

- Russell Z Kunes, **Mingzhang Yin**, Max Land, Doron Haviv, Dana Pe'er, Simon Tavaré. "Gradient Estimation for Binary Latent Variables via Gradient Variance Clipping." AAAI Conference on Artificial Intelligence (AAAI), 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

* = Equal contribution

- Junzhe Shao, **Mingzhang Yin**, Xiaoxuan Cai, Linda Valeri. "Generalized Synthetic Control Method with State-Space Model." Accepted by Workshop on Causality for Real-world Impact, NeurIPS 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

- Invited talk. "Causal Machine Learning for Individual Treatment Effects", AI2Heal Datathon, University of Florida   Jan. 2023

- Invited talk. "Conformal Sensitivity Analysis for Individual Treatment Effects", Statistics Seminar, University of Florida   Oct. 2022

- Invited talk. "Conformal Sensitivity Analysis for Individual Treatment Effects", IROM Seminar, University of Texas at Austin   Oct. 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

Organizer of an invited session on "Probabilistic Machine Learning on Unstructured Data": ICSA 2023 at Ann Arbor, MI.
Area Chair: AISTATS 2022
Conference reviewing: NeurIPS 2017–2022; ICML 2019–2023; ICLR 2018–2022; AISTATS 2018, 2021; UAI 2019–2023; 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), 2016–present; International Chinese Statistical Association (ICSA), 2021–present. INFORMS & ISMS membership, 2023–present.

TEACHING AND ADVISING EXPERIENCE

Instructor, Marketing Analytics II — Spring 2023
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

KAUST Rising Star in AI	2023
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