# MINGZHANG YIN

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## EDUCATION

**Ph.D. Statistics, The University of Texas at Austin**                                          2020

Thesis: *Variational Methods with Dependence Structure*
Supervisor: Dr. Mingyuan Zhou

**B.Sc. Mathematics and Applied Mathematics, Fudan University**                      2015

## PROFESSIONAL EXPERIENCE

**Postdoctoral Fellow**, Data Science Institute, Columbia University          July 2020–present
Supervisor: David Blei and Simon Tavaré

**Research Intern**, Google Brain, Mountain View, CA                      May 2019–August 2019
Supervisor: George Tucker and Chelsea Finn

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

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

## PUBLICATIONS

(* represents equal contribution)

- **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.**

- 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.**

- 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**, George Tucker, Mingyuan Zhou, Sergey Levine and Chelsea Finn. "Meta-Learning without Memorization." **International Conference on Learning Representations (ICLR), Top 5%, Spotlight, 2020.**

- **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.**

- **Mingzhang Yin** and Mingyuan Zhou. "ARM: Augment-REINFORCE-Merge Gradient for Stochastic Binary Networks." **International Conference on Learning Representations (ICLR), Top 10%, 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 PREPARATION

- **Mingzhang Yin**, Nhat Ho, Bowei Yan, Xiaoning Qian, Mingyuan Zhou. "Probabilistic Best Subset Selection via Gradient-Based Optimization" **arXiv, 2020.**

- **Mingzhang Yin**, Mingyuan Zhou. "Information Theoretic Semi-Implicit Inference and Learning" **Plan to submit to JMLR, 2019.**

## PRESENTATIONS

"Semi-implicit Variational Inference as Accurate Black-box Posterior Inference", *International Conference on Machine Learning*, Stockholm, July, 2018.

"Efficient Discrete Optimization with Correlated Samples", *International Conference on Machine Learning*, Long Beach, June, 2019.

"A Pitfall in the Generalization of Meta-Learning and how we fix it", *Statistical Seminar*, University of Texas at Austin, Austin, Texas, September, 2019.

"Semi-Implicit Variational Inference" *AI/ML Seminar Series*, Center for Machine Learning and Intelligent Systems, University of California, Irvine, February, 2020.

## ACADEMIC SERVICE

**Conference reviewing:** NeurIPS 2017—2020; ICML 2019, 2020; ICLR 2018, 2019; AISTATS 2018; UAI 2019, 2020; ACML 2018; AAAI 2018

**Journal reviewing:** 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

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|---|---:|
| Teaching Assistant, Introduction to Probability and Statistics | Fall 2017, Fall 2019 |
| Teaching Assistant, Bayesian Statistical Methods | Spring 2016, Spring 2017 |
| Teaching Assistant, Design and Analysis of Experiments | Spring 2017 |
| Teaching Assistant, Linear Algebra | Fall 2018 |
| Undergraduate Mentorship, Directed Reading Program, UT Math Department | Fall 2018, Spring 2019 |

## SELECTED AWARDS AND HONORS

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| The Graduate Continuing Bruton Fellowship | 2018, 2019 |
| Travel Award (NeurIPS, ICML, ICLR, MetaLearn Workshop) | 2017- 2019 |
| Outstanding Student Scholarship | 2011-2015 |
| Leo Tang Hsiang-chien Scholarship | April 2013 |
| National 1$^{st}$ Prize in China Mathematics Competition in Modeling | October 2013 |
| 1$^{st}$ Prize in China Mathematical Olympiad | 2011 |

## SKILLS

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| **Language** | Native in Chinese; Fluent in English |
| **Programming** | Fluent in Python, Matlab, R, LaTeX, Tensorflow; Familiar with C, C++, Pytorch |