MINGZHANG YIN

3553 Lake Austin Blvd Apt B. ◇ Austin, TX 78703
(206) · 519 · 8518 ◇ mzyin@utexas.edu ◇ https://mingzhang-yin.github.io

EDUCATION

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

· **Supervisor**: Dr. Mingyuan Zhou Cumulative GPA: 3.98/4.00

· **Reasearch Interest**: Approximate Bayesian Inference, Bayesian Deep Learning, Optimization, Information Theory, Reinforcement Learning

Fudan University, Bachelor of Science *June 2015*
Mathematics and Applied Mathematics Major GPA: 3.58/4.00

North Carolina State University, Statistics *January 2014*
Exchange student,UNC Exchange Program Cumulative GPA: 4.00/4.00

RESEARCH

ARSM: Augment-REINFORCE-Swap-Merge Estimator for Gradient Backpropagation Through Categorical Variables
***Mingzhang Yin**, Yuguang Yue, Mingyuan Zhou*

· Submitted to ICML 2019.

Semi-implicit Variational Inference
***Mingzhang Yin** and Mingyuan Zhou*

· Expand variational family with hierarchical model mixing explicit distribution with implicit one; Can serve as black-box inference scheme for unknown posterior with high speed and accuracy of uncertainty.

· Accepted by ICML 2018, *Long talk*.

ARM: Augment-REINFORCE-Merge Gradient for Stochastic Binary Networks
***Mingzhang Yin** and Mingyuan Zhou*

· Design unbiased, low variance gradient methods to infer discrete latent variables in variational inference and reinforcement learning. Variance reduction is achieved via data augmentation and antithetic sampling with theoretical guarantee.

· Accepted by ICLR 2019, *Top* 10%.

Convergence of Gradient EM for Multi-component Gaussian Mixture
*Bowei Yan, **Mingzhang Yin** and Purnamrita Sarkar*

· Theoretically prove near optimum local convergence region and convergence rate for gradient EM on general Gaussian Mixture model. Analysis includes both population and finite sample cases.

· Accepted by NIPS 2017.

Semi-implicit Generative Models
***Mingzhang Yin** and Mingyuan Zhou*

· Design a semi-implicit generative model robust to mode-collapse problem. Interpolate the training between the maximum likelihood estimator and adversarial learning schemes.

· Appear on NeurIPS 2018 Bayesian Deep Learning Workshop

Augment-Reinforce-Merge Policy Gradient for Binary Stochastic Policy
*Yunhao Tang, **Mingzhang Yin** and Mingyuan Zhou*

· Arxiv

PROFESSIONAL EXPERIENCES

Conference reviewing: NIPS 2017, 2018, 2019; ICML 2019; ICLR 2018; AISTATS 2018; AAAI 2018; UAI 2019; ACML 2018

Member of American Statistical Association (ASA) 2015-2019

Poster presentation at Neural Information Processing Systems Conference 2017,2018

Long talk at International Conference on Machine Learning 2018

HONORS AND AWARDS

The Graduate Continuing Bruton Fellowship 2018

Travel Award (NIPS, ICML, ICLR) 2017, 2018

Best Intern Prize, Hewlett Packard Enterprise July 2016

Leo Tang Hsiang-chien Scholarship April 2013

National 1st Prize in China Mathematics Competition in Modeling October 2013

1st Prize in Eastern China Mathematical Modeling Competition July 2013

INTERNSHIP

Research Intern in Quantlab Financial LLC June 2017-August 2017

· Build passiave trading strategy model and passed the phase one test.

Data Science Intern in Hewlett Packard Enterprise, Big Data Platform June 2016-August 2016

· Build survival analysis model to predict the close date of sales pipeline.

· Ensemble logistic regression, KNN and LDA to predict sales closing state.

· Apply Topological data analysis to track, predict and classify web click streams. Patent Application #710224784.

Research Intern at China Academy of Science, Computational Biology 2014-2015

· Building epithelial mesenchymal transition(EMT) type 2 map in CellDesigner with Dr.Christine Nardini

SKILLS

Language	Native in Chinese; Fluent in English
Computer Languages	Fluent in R, Python, C++, Matlab, LaTeX
Tools	Tensorflow, Pytorch, Parallel computing