Ruqi Zhang

Gates Hall 325, 107 Hoy Rd
Ithaca, NY 14850
✆ (607)262-1821
✉ rz297@cornell.edu
🖥 ruqizhang.github.io

Education

2016–2021 (expected) **PhD, Statistics; Special MS, Computer Science**, *Cornell University, Ithaca, NY*.
Advisor: Christopher De Sa, Committee Members: Thorsten Joachims, Giles Hooker
GPA: 3.97/4.00

2012–2016 **BS, Mathematics and Applied Mathematics**, *Renmin University of China, Beijing, China*.
GPA: 3.82/4.00

2015 **Exchange Student, Mathematics and Computer Science**, *University of Helsinki, Finland*.
GPA: 5/5

Research Interests

I am interested in building scalable, reliable and efficient probabilistic models for machine learning and data science. Currently, I focus on developing fast and robust inference methods with theoretical guarantees and their applications with deep neural networks on real-world big data.

Publications

[1] **Meta-Learning Divergences for Variational Inference**.
Artificial Intelligence and Statistics (AISTATS), 2021
Ruqi Zhang, Yingzhen Li, Christopher De Sa, Sam Devlin, Cheng Zhang

[2] **Asymptotically Optimal Exact Minibatch Metropolis-Hastings**.
Neural Information Processing Systems (NeurIPS), 2020
Spotlight, acceptance rate 2.96%
Ruqi Zhang, A. Feder Cooper, Christopher De Sa

[3] **AMAGOLD: Amortized Metropolis Adjustment for Efficient Stochastic Gradient MCMC**.
Artificial Intelligence and Statistics (AISTATS), 2020
Ruqi Zhang, A. Feder Cooper, Christopher De Sa

[4] **Cyclical Stochastic Gradient MCMC for Bayesian Deep Learning**.
International Conference on Learning Representations (ICLR), 2020
Oral, acceptance rate 1.85%
Ruqi Zhang, Chunyuan Li, Jianyi Zhang, Changyou Chen, Andrew Gordon Wilson

[5] **Poisson-Minibatching for Gibbs Sampling with Convergence Rate Guarantees**.
Neural Information Processing Systems (NeurIPS), 2019,
Spotlight, acceptance rate 2.43%
Ruqi Zhang, Christopher De Sa

[6] **Large Scale Sparse Clustering**.
International Joint Conference on Artificial Intelligence (IJCAI), 2016
Ruqi Zhang, Zhiwu Lu

Work Experience

6/2020– 8/2020 **Research Intern**, *Microsoft Research New England*.
Mentors: Nicolo Fusi, Rishit Sheth
Project: Hyperparameter Schedules Optimization. One paper in progress.

6/2019– 8/2019	**Research Intern**, *Microsoft Research Cambridge, UK*. Mentors: Cheng Zhang, Yingzhen Li, Sam Devlin Project: Meta-learning and reinforcement learning for variational inference. One paper published at AISTATS.

Code Repositories

2020	`https://github.com/ruqizhang/csgmcmc`. PyTorch code for MCMC methods in Bayesian deep learning
2020	`https://github.com/ruqizhang/tunamh`. A library in Julia for minibatch Metropolis-Hastings methods
2020	`https://github.com/ruqizhang/amagold`. PyTorch code for an unbiased stochastic gradient MCMC
2019	`https://github.com/ruqizhang/pgibbs`. Julia code for a minibatch Gibbs sampling method

Talks

Asymptotically Optimal Exact Minibatch Metropolis-Hastings.
Spotlight talk in Rising Stars in Data Science Workshop at University of Chicago, January 2021
Spotlight presentation at NeurIPS, December 2020
Cyclical Stochastic Gradient MCMC for Bayesian Deep Learning.
Oral presentation at ICLR, April 2020

Poisson-Minibatching for Gibbs Sampling with Convergence Rate Guarantees.
Spotlight presentation at NeurIPS, December 2019

Teaching

Cornell	Head Teaching Assistant, CS 4820, Introduction to Analysis of Algorithms, Spring 2021
	Teaching Assistant, ILRST 5050, Statistics at Work, Fall 2018
	Teaching Assistant, STSCI 2100, Introductory Statistics, Spring 2018
	Teaching Assistant, MATH 3110, Introduction to Analysis, Spring 2017
	Teaching Assistant, STSCI 3110, Probability Models and Inference for the Social Sciences, Fall 2016, Fall 2017, Fall 2020

Service

Reviewer	NeurIPS 2018, 2019, 2020; ICML 2019, 2020, 2021 (expert reviewer); ICLR 2019, 2020, 2021; AISTATS 2020, 2021; AAAI 2020; UAI 2019; AABI 2019, 2020; ICBINB@NeurIPS 2020; Neural Compression Workshop@ICLR 2021

Awards

2020	Spotlight Rising Star in Data Science at University of Chicago
2020	NeurIPS Top 10% Reviewers Award
2019	NeurIPS Travel Grant
2013-2015	Academic Outstanding Scholarship, Renmin University of China
2015	Exchange Students Scholarship, University of Helsinki

Technical Skills

Programming Languages	Python, Julia, C/C++, Matlab, R
Deep Learning	Pytorch, Tensorflow