

# Ruqi Zhang

## Education

- 2016–2021 **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– **Research Intern**, *Microsoft Research Cambridge, UK*.

8/2019 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

- Organizer The 4th Symposium on Advances in Approximate Bayesian Inference (AABI)
- 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

- 2021 ICML Best Reviewers (Top 10%)
- 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