

Zhihan Xiong

✉ zhihanx@cs.washington.edu

🌐 <https://homes.cs.washington.edu/~zhihanx/>

Education

University of Washington, Seattle, WA *Spe 2020–present*
Ph.D. in Computer Science & Engineering, advisor: **Maryam Fazel** **GPA: 4.0/4.0**

Stanford University, Stanford, CA *Spe 2018–Jun 2020*
M.S. in Statistics **GPA: 4.0/4.0**

University of Illinois at Urbana-Champaign, Champaign, IL *Aug 2014–May 2018*
B.S. in Mathematics (Summa Cum Laude and with Highest Distinction) **GPA: 4.0/4.0**
B.S. in Engineering Physics (with Highest Honors)
Minors in Computer Science and Statistics

Related Courses: Statistical Learning Theory, Asymptotic and High-dimensional Statistics, Convex Optimization, Dynamic Programming and Reinforcement Learning, Interactive Learning, Markov Chains and Monte Carlo Methods, Probabilistic Graphical Models, Information Theory.

Research Interests: Online Learning, Reinforcement Learning, Active Learning, Recommender System.

Professional Services: Reviewer of ICML (2021, 2022), NeurIPS (2021, 2022) and ICLR (2022).

Publications/ Preprints

Learning in Congestion Games with Bandit Feedback

- Qiwen Cui*, **Zhihan Xiong***, Maryam Fazel, Simon S. Du
- *Preprint* [[arXiv](#)]

Near-Optimal Randomized Exploration for Tabular Markov Decision Processes

- **Zhihan Xiong***, Ruoqi Shen*, Qiwen, Cui*, Maryam Fazel, Simon S. Du
- *Preprint* [[arXiv](#)]

Fourier Learning with Cyclical Data

- Yingxiang Yang*, **Zhihan Xiong***, Tianyi Liu*, Taiqing Wang, Chong Wang
- *International Conference on Machine Learning (ICML), 2022.* [[paper](#)]

Selective Sampling for Online Best-arm Identification

- Romain Camilleri*, **Zhihan Xiong***, Maryam Fazel, Lalit Jain, Kevin Jamieson
- *Neural Information Processing Systems (NeurIPS), 2021.* [[arXiv](#)]

Parameterized Indexed Value Function for Efficient Exploration in Reinforcement Learning

- Tian Tan*, **Zhihan Xiong***, Vikranth R. Dwaracherla
- *Association for the Advancement of Artificial Intelligence (AAAI, Oral), 2020.* [[arXiv](#)]

Work/ Research Experience

University of Washington
Research Assistant, Institute for Foundations of Data Science (IFDS)

Seattle, WA
Sep 2020–present

supervised by Prof. **Maryam Fazel**

- Conducted research in online active learning and reinforcement learning theory.

Bytedance

Research Intern, Applied Machine Learning Group (AML)

supervised by Dr. **Yingxiang Yang** and **Chong Wang**

Seattle, WA

Jun 2021–Sep 2021

- Explored utilizing periodicity in data distribution for online learning and large-scale recommender systems.
- Published “*Fourier Learning with Cyclical Data*” in ICML 2022.

Zillow

Applied Scientist Intern

supervised by Dr. **Luca Cazzanti**

Seattle, WA

Jun 2019–Sep 2019

- Participated in designing a new model with novel combination of decision tree and Thompson sampling to solve the recommendation-related contextual bandit problem.
- Developed an efficient method to accurately evaluate a policy using off-line data.

Other Projects

Few-Shot Learning on Google Landmark Challenge ([Report Link](#))

CS 231N: Convolutional Neural Networks for Visual Recognition

Stanford, CA

Apr 2019–Jun 2019

- Implemented various deep few-shot learning algorithms including Siamese Net, Prototypical Nets and MetaOptNet.
- Explored different methods to improve their performance on Google Landmark dataset.

Adversarial Machine Learning with GAN ([Report Link](#))

Senior Thesis Project

supervised by Prof. **Pierre Moulin**

Champaign, IL

Jun 2017–Apr 2018

- Modified GAN so that the generator tries to create adversarial images to deceive both a fixed target model and the discriminator while the discriminator tries to differentiate the clean and the adversarial images, resulting a new efficient attack method.

Teaching Experience

Graduate Teaching Assistant

CS 229: Machine Learning

CS 234: Reinforcement Learning

Stanford, CA

Autumn 2019, Spring 2020

Winter 2020

Awards & Honors

IFDS Research Assistantship: Winter 2021

UI Undergraduate Math Contest, 2nd out of 38: Spring 2018

Yee Seung Ng Award: Spring 2017

Skills

Programming: Python (NumPy, Pandas, PyTorch, TensorFlow 1.x), \LaTeX , R, C++, SQL

Languages: Chinese (native), English (fluent)