

Qiwen Cui

Paul G. Allen School of Computer Science & Engineering

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RESEARCH INTERESTS

Reinforcement Learning Theory, Algorithmic Game Theory

EDUCATION

University of Washington, Seattle

Sep. 2021 - Present

- Ph.D. student in Computer Science & Engineering
- Advisor: Simon Shaolei Du

Peking University

Sep. 2017 - July. 2021

- B.S. in Statistics
- Advisor: Zaiwen Wen

CONFERENCE PUBLICATIONS

* denotes equal contribution or alphabetical ordering

1. **Qiwen Cui**, Kaiqing Zhang, Simon S. Du

Breaking the Curse of Multiagents in a Large State Space: RL in Markov Games with Independent Linear Function Approximation

In 36th Annual Conference on Learning Theory (COLT) 2023

2. Haozhe Jiang*, **Qiwen Cui***, Zhihan Xiong, Maryam Fazel, Simon S. Du

Offline Congestion Games: How Feedback Type Affects Data Coverage Requirement

In International Conference on Learning Representations (ICLR) 2023

3. **Qiwen Cui**, Simon S. Du

Provably Efficient Offline Multi-agent Reinforcement Learning via Strategy-wise Bonus

In Conference on Neural Information Processing Systems (NeurIPS) 2022

4. **Qiwen Cui**, Simon S. Du

When is Offline Two-Player Zero-Sum Markov Game Solvable?

In Conference on Neural Information Processing Systems (NeurIPS) 2022

5. **Qiwen Cui***, Zhihan Xiong*, Maryam Fazel, Simon S. Du
Learning in Congestion Games with Bandit Feedback
In Conference on Neural Information Processing Systems (NeurIPS) 2022
6. Zhihan Xiong*, Ruoqi Shen*, **Qiwen Cui***, Maryam Fazel, Simon S. Du
Near-Optimal Randomized Exploration for Tabular MDP
In Conference on Neural Information Processing Systems (NeurIPS) 2022
7. Xinqi Wang, **Qiwen Cui**, Simon S. Du
On Gap-dependent Bounds for Offline Reinforcement Learning
In Conference on Neural Information Processing Systems (NeurIPS) 2022
8. Haque Ishfaq*, **Qiwen Cui***, Viet Nguyen, Alex Ayoub, Zhuoran Yang, Zhaoran Wang, Doina Precup, Lin F. Yang
Randomized Exploration for Reinforcement Learning with General Value Function Approximation
In International Conference on Machine Learning (ICML) 2021
9. **Qiwen Cui**, Lin F. Yang
Minimax sample complexity for turn-based stochastic game
In Uncertainty in Artificial Intelligence (UAI) 2021
10. **Qiwen Cui**, Lin F. Yang
Is Plug-in Solver Sample-Efficient for Feature-based Reinforcement Learning?
In Conference on Neural Information Processing Systems (NeurIPS) 2020

JOURNAL PUBLICATIONS

1. Minghan Yang, Dong Xu, **Qiwen Cui**, Zaiwen Wen, Pengxiang Xu
A Multi-Step Matrix-Product Natural Gradient Method for Deep Learning
IEEE Transactions on Pattern Analysis and Machine Intelligence 2022
2. **Qiwen Cui**, Qingxiao Chen, Pufan Liu, Debin Liu, Zaiwen Wen
Clinical decision support model for tooth extraction therapy derived from electronic dental records
In The Journal of Prosthetic Dentistry 2021

PREPRINTS

1. Haozhe Jiang, **Qiwen Cui**, Zhihan Xiong, Maryam Fazel, Simon S. Du
A Black-box Approach for Non-stationary Multi-agent Reinforcement Learning

AWARDS/HONORS

NeurIPS Travel Awards 2022

Paul G. Allen First-Year Graduate Student Fellowship

Elite Undergraduate Training Program of Applied Mathematics (top 15%)

1st Prize in Mathematics Competition of Chinese College Student

1st Prize in National High School Mathematics Competition

PROFESSIONAL ACTIVITIES

Paper Reviewer: NeurIPS 2022, ICML 2022, NeurIPS 2021, ICML 2021, UAI2021

UW CSE Ph.D. Admission Reviewer 2021

CS Ed Week Open House for Washington K-12 Students: 2022/2023