

# Qiwen Cui

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## RESEARCH INTERESTS

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Reinforcement Learning, Game Theory

## EDUCATION

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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

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\* 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

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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

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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

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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

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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