

WEI XIONG

Mathematics, The Hong Kong University of Science and Technology

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SHORT BIO

Wei Xiong is a first-year PhD student in mathematics at The Hong Kong University of Science and Technology, advised by Prof. [Tong Zhang](#). He received a B.S. in mathematics from the University of Science and Technology of China in 2021, where he worked closely with Prof. [Cong Shen](#) and Prof. [Haishan Ye](#).

His current research interests focus on learning theory, reinforcement learning, multi-armed bandit, and optimization.

EDUCATION

The Hong Kong University of Science and Technology *Hong Kong, China*
Ph.D. student, *Department of Mathematics* *2021 - present*
Advisor: Prof. Tong Zhang

University of Science and Technology of China *Hefei, China*
Bachelor of Science, *Department of Probability and Statistics* *2019.2 - 2021.6*
Department of Electronic Engineering *2016.8 - 2019.1*
GPA: 3.96/4.3, ranking: 1/72 in Statistics

Shanghai Jiao Tong University *Shanghai, China*
Exchange student at School of Electronic Information and Electrical Engineering *2018.2 - 2018.7*

EXPERIENCE

The Hong Kong University of Science and Technology:
Teaching Assistant: MATH 6913W - Reading Course: Statistical Learning Theory *Spring 2022*
Teaching Assistant: MATH 2023 - Multivariable Calculus *Spring 2022*

Microsoft Research Asia (MSRA):
Intern: Networking Research and Machine Learning Group *Spring 2021*
Worked on bandwidth estimation for real-time communications with reinforcement learning

University of Science and Technology of China:
Teaching Assistant: Mathematical Statistics *Fall 2020*
Teaching Assistant: Data Structures and Databases *Spring 2020*
Teaching Assistant: Algorithms and Data Structures *Fall 2019*

PUBLICATIONS AND PREPRINTS

- [1] [Wei Xiong](#), [Han Zhong](#), [Chengshuai Shi](#), [Cong Shen](#), and [Tong Zhang](#), "A Self-Play Posterior Sampling Algorithm for Zero-Sum Markov Game", Submitted.
- [2] [Han Zhong*](#), [Wei Xiong*](#), [Jiyuan Tan*](#), [Liwei Wang](#), [Tong Zhang](#), [Zhaoran Wang](#), and [Zhuoran Yang](#), "Pessimistic Minimax Value Iteration: Provably Efficient Equilibrium Learning from Offline Datasets", Submitted.
- [3] [Chengshuai Shi](#), [Wei Xiong](#), [Cong Shen](#), and [Jing Yang](#), "Reward Teaching for Federated Multi-armed Bandits", Submitted.

- [4] Haishan Ye*, and Wei Xiong*, "A practical method for trace estimation of Matrix inverse", Submitted.
- [5] Haishan Ye*, Wei Xiong*, and Tong Zhang, "PMGT-VR: A decentralized proximal-gradient algorithmic framework with variance reduction", Submitted.
- [6] Chengshuai Shi, Wei Xiong, Cong Shen, and Jing Yang, "Heterogeneous Multi-player Multi-armed Bandits: Closing the Gap and Generalization", Neurips, 2021.
- [7] Chengshuai Shi, Haifeng Xu, Wei Xiong, and Cong Shen, "(Almost) Free Incentivized Exploration from Decentralized Learning Agents", Neurips, 2021.
- [8] Pushi Zhang, Xiaoyu Chen, Li Zhao, Wei Xiong, Tao Qin, and Tie-Yan Liu, "Distributional Reinforcement Learning for Multi-Dimensional Reward Functions", Neurips, 2021.
- [9] Chengshuai Shi, Wei Xiong, Cong Shen, and Jing Yang, "Decentralized multi-player multi-armed bandits with no collision information", AISTATS, 2020.

where * means alpha-order or equal contribution.

FELLOWSHIP AND SCHOLARSHIP

Hong Kong PhD Fellowship	<i>April 2021</i>
Yuanqing Yang Scholarship	<i>November 2020</i>
Chinese Academy of Sciences Institute of Electronics Scholarship	<i>October 2018</i>
National Scholarship	<i>October 2017</i>
Zhuang Caifang Scholarship	<i>July 2016</i>

HONORS AND AWARDS

Outstanding graduate of USTC and Anhui province <i>University of Science and Technology of China</i>	<i>June 2021</i>
Honor Program in Electronic Engineering/Artificial Intelligence <i>Department of Electronic Engineering, University of Science and Technology of China</i>	<i>2017 - 2019</i>
Best Soccer Referee of USTC Women Soccer League <i>Soccer Association, University of Science and Technology of China</i>	<i>March 2017</i>
Outstanding Volunteer Tour Guide Award <i>Hefei Science and Technology Museum</i>	<i>November 2016</i>