Haoran Xu

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Google Scholar: https://scholar.google.com/citations?user=iX8AJI0AAAAJ&hl=en

Education

Master of Computer Science and Technology   *(Sep. 2018 – June. 2021)*
Xidian University, Shaanxi, China
Advised by Prof. Xianyuan Zhan and Prof. Yu Zheng; GPA: 3.8/4.0

Bachelor of Computer Science and Technolog   *(Sep. 2014 – June. 2018)*
Xidian University, Shaanxi, China
Studied in Excellent Engineer Class; GPA: 3.7/4.0 (3/27)

Research Experience

JD Technology, Beijing. *Researcher*   June 2021 – Mar. 2023
Working on algorithms and applications of data-driven decision making with several collaborators.
JD Digits, Beijing. *Student Researcher*   May 2019 - May 2021
Worked on offline reinforcement learning and imitation learning with Prof. Xianyuan Zhan.
Microsoft Research Lab Asia (MSRA), Beijing. *Research Intern*   Oct. 2017 – Mar. 2019
Worked on AI-driven industrial system optimization with Prof. Xianyuan Zhan and Prof. Yu Zheng.
Xidian University. *Undergraduate Researcher*   May - July, 2016
Worked on computer vision and its applications on license plate recognition.

Publications and Pre-Prints

Publications

(* indicates Equal Contribution)

1. **Offline RL with No OOD Actions: Offline RL with Implicit Value Regularization** [Paper]
   <u>Haoran Xu</u>, Li Jiang, Jianxiong Li, Zhuoran Yang, Zhaoran Wang, Victor Wai Kin Chan, Xianyuan Zhan
   International Conference on Learning Representations (ICLR), 2023 (***Oral***). *(Acceptance rate: 5.0%)*

2. **A Policy-Guided Imitation Approach for Offline Reinforcement Learning** [Paper]
   <u>Haoran Xu</u>*, Li Jiang*, Jianxiong Li, Xianyuan Zhan
   Neural Information Processing Systems (NeurIPS), 2022 (***Oral***). *(Acceptance rate: 1.9%)*

3. **Discriminator-Weighted Offline Imitation Learning from Suboptimal Demonstrations** [Paper]
   <u>Haoran Xu</u>, Xianyuan Zhan, Honglei Yin, Huiling Qin
   International Conference on Machine Learning (ICML), 2022. *(Acceptance Rate: 21.9%)*

4. **Constraints Penalized Q-Learning for Safe Offline Reinforcement Learning** [Paper]
   <u>Haoran Xu</u>, Xianyuan Zhan, Xiangyu Zhu
   Association for the Advancement of Artificial Intelligence (AAAI), 2022. *(Acceptance Rate: 15.0%)*
   Oral Presentation at RL for Real Life Workshop at ICML 2021 (*12/90 papers*).

5. **DeepThermal: Combustion Optimization for Thermal Power Generating Units Using Offline RL**
   Xianyuan Zhan*, <u>Haoran Xu</u>*, Yue Zhang, Yusen Huo, Xiangyu Zhu, Honglei Yin, Yu Zheng [Paper]
   Association for the Advancement of Artificial Intelligence (AAAI), 2022. *(Acceptance Rate: 15.0%)*
   Oral Presentation at RL for Real Life Workshop at ICML 2021 (*12/90 papers*).

6. **Discriminator-Guided Model-Based Offline Imitation Learning** [Paper]
   Wenjia Zhang, <u>Haoran Xu</u>, Haoyi Niu, Peng Cheng, Ming Li, Heming Zhang, Guyue Zhou, Xianyuan Zhan
   Conference on Robot Learning (CoRL), 2022. *(Acceptance Rate: 39.0%)*

7. **When Data Geometry Meets Deep Function: Generalizing Offline Reinforcement Learning** [Paper]

Jianxiong Li, Xianyuan Zhan, **Haoran Xu**, Xiangyu Zhu, Jingjing Liu, Ya-Qin Zhang
International Conference on Learning Representations (ICLR), 2023. *(Acceptance Rate: 31.8%)*

8. **Mind the Gap: Offline Policy Optimizaiton for Imperfect Rewards** [Paper]
Jianxiong Li, Xiao Hu, **Haoran Xu**, Jingjing Liu, Xianyuan Zhan, Qing-Shan Jia, Ya-Qin Zhang
International Conference on Learning Representations (ICLR), 2023. *(Acceptance Rate: 31.8%)*

9. **Model-Based Offline Planning with Trajectory Pruning** [Paper]
Xianyuan Zhan, Xiangyu Zhu, **Haoran Xu**
International Joint Conference on Artificial Intelligence (IJCAI), 2022. *(Acceptance Rate: 15.0%)*

Pre-Prints

10. **SaFormer: A Conditional Sequence Modeling Approach to Offline Safe RL** [Paper] (2023)
Qin Zhang*, Linrui Zhang*, **Haoran Xu**, Li Shen, Bowen Wang, Xueqian Wang, Bo Yuan, Yongzhe Chang, Dacheng Tao
Scene Representations for Autonomous Driving Workshop, ICLR 2023

11. **Offline Reinforcement Learning with Soft Behavioral Regularization** [Paper] (2021)
Haoran Xu, Xianyuan Zhan, Jianxiong Li, Honglei Yin
Offline Reinforcement Learning Workshop, NeurIPS 2021

Awards and Fellowships

· Top Reviewer Award at NeurIPS 2022 [details]	2022
· 2019 Synced Machine Intelligence Awards: 30 Best AI Use Cases of the Year [details]	2020
· Xidian University Outstanding Graduate	2018
· Meritorious Winner in MCM/ICM	2017
· National Scholarship	2016, 2017
· Second Prize in CUMCM	2016
· National Scholarship for Encouragement	2015

Invited Talks and Presentations

· **Offline RL with Implicit Value Regularization**, *AI TIME*	Mar. 2023
· **Safe, Reliable and Generalizable Offline RL**, *CMU Safe AI Lab , Host: Prof. Ding Zhao*	Feb. 2023
· **A Policy-Guided Imitation Approach for Offline RL**, *NeurIPS China Meetup*	Nov. 2022
· **Frontiers of Offline Reinforcement Learning**, *Tsinghua University, Host: Prof. Xianyuan Zhan*	Oct. 2021
· **Constraints Penalized Q-Learning for Safe Offline RL**, *ICML 2021 RL4RealLife Workshop*	July 2021
· **An Introduction to Offline Reinforcement Learning**, *JD Digits, Host: Dr. Junbo Zhang*	May 2020
· **Using RL to Solve Combustion Optimization for TPGUs**, *Microsoft Research Lab Asia*	Feb. 2018

Professional Service

Conference and Journal Reviewing

· Reviewer for NeurIPS (2022-2023) [**top reviewer award at NeurIPS 2022**], ICML (2022-2023), AAAI (2023), IEEE Transactions on Knowledge and Data Engineering (TKDE) (2020-2021).
· TPC member for Workshop on RL for Real Life at NeurIPS 2022

Teaching Experience

· **Teaching Assistant** for Data Warehouse and Data Mining, Xidian University	Spring 2017
· **Teaching Assistant** for Computational Intelligence, Xidian University	Fall 2016
· **Teaching Assistant** for Linear Algebra, Xidian University	Spring 2015