Zaiyan Xu

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Research Interests

Reinforcement learning, multi-armed bandits

Education Texas A&M University, College Station, TX

Aug. 2020 - Present

Ph.D. in Electrical Engineering Advisor: Prof. Dileep Kalathil

University of Illinois at Urbana-Champaign, IL

Aug. 2015 - Jul. 2020

B.S. in Statistics & Computer Science and Actuarial Science

Cum Laude, Highest Distinction in CS and Statistics, High Distinction in Actuarial Science

Honors and **Achievements**

Dept. of Electrical and Computer Engineering Graduate Merit Fellowship, TAMU, 2020

Willis Towers Watson Actuarial Science Scholarship, Dept. of Mathematics, UIUC, 2018

Work **Experience** Mitsubishi Electric Research Laboratories, Cambridge, MA

May. 2023 - Aug 2023

Research Intern (Host: Dr. Mouhacine Benosman)

Developing safe and distributionally robust RL algorithms and analyzing their statistical efficiency.

National Center for Supercomputing Application, Champaign, IL Jun. 2019 - May 2020 Undergraduate Researcher (NCSA SPIN Program)

Worked on speech recognition and auto-captioning with a focus on engineering lectures. Developed several wrappers for CMU Sphinx engine and streamlined model training process by automating audio slicing, caption partitioning.

Publications

- 1. Kishan Panaganti, Zaiyan Xu, Dileep Kalathil, Mohammad Ghavamzadeh. "Bridging Distributionally Robust Learning and Offline RL: An Approach to Mitigate Distribution Shift and Partial Data Coverage", under review, 2023.
- 2. Kishan Panaganti*, Zaiyan Xu*, Dileep Kalathil. "Distributionally Robust Behavioral Cloning for Robust Imitation Learning ", accepted to the 62nd IEEE Conference on Decision and Control, 2023.
- 3. Zaiyan Xu*, Kishan Panaganti*, Dileep Kalathil. "Improved Sample Complexity Bounds For Distributionally Robust Reinforcement Learning", accepted to International Conference on Artificial Intelligence and Statistics (AISTATS), 2023.
- 4. Kishan Panaganti, Zaiyan Xu, Dileep Kalathil, Mohammad Ghavamzadeh. "Robust Reinforcement Learning Using Offline Data", accepted to Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS), 2022.

(* denotes equal contribution)

Real Variables I (MATH 607)

Relevant Coursework Introduction to Classical Analysis (MATH 615) Probability for statistics (STAT 614) Reinforcement Learning (ECEN 689)

Applied Convex Optimization (ECEN 629)

Analysis for Applications I (MATH 641) Applied Probability (MATH 619) High Dimensional Probability (MATH 689) Stochastic Systems (ECEN 755)

Advanced Stochastic Processes (STAT 621)

Advanced Optimization Techniques and Analysis (ECEN 689)

Professional Services

Conference reviewer: ICLR (2024), NeurIPS (2023 Top Reviewer), ICML (2023), AISTATS (2023, 2024), American Control Conference (2023), IEEE Conference on Decision and Control (2023), L4DC (2023)

Skills Languages: Python, C, C++, Java, R, Bash, Assembly, SQL, $\protect\operatorname{MTEX}$

Framework: PyTorch, OpenAl Gym

References Prof. Dileep Kalathil

Dept. of Electrical and Computer Engineering Texas A&M University, College Station, TX

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