YUDA SONG

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EDUCATION

Carnegie Mellon University August 2022 -
Ph.D. in Machine Learning
Advisors: Aarti Singh and J. Andrew Bagnell

Carnegie Mellon University August 2020 - December 2021
M.S. in Machine Learning
Advisor: Kris Kitani

University of California, San Diego September 2016 - June 2020
B.S. in Computer Science, B.S. in Mathematics Summa Cum Laude
Advisor: Sicun Gao

RESEARCH INTEREST

My research interests lie in the field of statistical machine learning, with a specific focus on reinforcement learning (RL) theory. My study focuses on provably efficient setups and algorithms in RL with practical application.

WORK EXPERIENCE

Microsoft Research NYC June 2023 - August 2023
Student Researcher
Mentors: Akshay Krishnamurthy and Dylan Foster

PUBLICATION

Alekh Agarwal*, **Yuda Song***, Wen Sun*, Kaiwen Wang*, Mengdi Wang*, Xuezhou Zhang*, "Provable Benefits of Representational Transfer in Reinforcement Learning," in *Conference on Learning Theort (COLT)*, 2023. https://arxiv.org/abs/2205.14571.

Anirudh Vemula, **Yuda Song**, Aarti Singh, Drew Bagnell, Sanjiban Choudhury, "The Virtues of Laziness in Model-based RL: A Unified Objective and Algorithms," in *International Conference on Machine Learning (ICML)*, 2023. https://arxiv.org/abs/2303.00694.

Yuda Song*, Yifei Zhou*, Ayush Sekhari, J. Andrew Bagnell, Akshay Krishnamurthy, Wen Sun, "Hybrid RL: Using Both Offline and Online Data Can Make RL Efficient," in *International Conference on Leaerning Representations (ICLR)*, 2023. https://arxiv.org/abs/2210.06718.

Chengzhuo Ni, **Yuda Song**, Xuezhou Zhang, Zihan Ding, Chi Jin, Mengdi Wang, "Representation Learning for General-sum Low-rank Markov Games," in *International Conference on Leaerning Representations (ICLR)*, 2023. https://arxiv.org/abs/2210.16976.

Xuezhou Zhang, **Yuda Song**, Masatoshi Uehara, Mengdi Wang, Alekh Agarwal, Wen Sun, " Efficient Reinforcement Learning in Block MDPs: A Model-free Representation Learning Approach," in *International Conference on Machine Learning (ICML)*, 2022. https://arxiv.org/abs/2202.00063.

Yuda Song, Ye Yuan, Wen Sun, Kris Kitani, "Online No-regret Model-Based Meta RL for Personalized Navigation," in *Learning for Dynamics & Control Conference (L4DC)*, 2022. https://arxiv.org/abs/2204.01925.

Ye Yuan, **Yuda Song**, Zhengyi Luo, Wen Sun, Kris Kitani, "Transform2Act: Learning a Transform-and-Control Policy for Efficient Agent Design," in *International Conference on Learning Representations (ICLR)*, 2022. **Oral**. https://arxiv.org/abs/2110.03659.

Yuda Song, Wen Sun, "PC-MLP: Model-based Reinforcement Learning with Policy Cover Guided Exploration," in *International Conference on Machine Learning (ICML)*, 2021. https://arxiv.org/abs/2107.07410.

Yuda Song, Aditi Mavalankar, Wen Sun, Sicun Gao, "Provably Efficient Model-based Policy Adaptation," in *International Conference on Machine Learning (ICML)*, 2020. https://arxiv.org/abs/2006.08051.

TEACHING EXPERIENCE

Teaching Assistant

- UCSD CSE291: Topics in Search and Optimization (Winter 2020)
- UCSD CSE154: Deep Learning (Fall 2019)
- UCSD CSE150: Introduction to AI: Search and Reasoning (Winter 2019, Spring 2020)

Tutor

- UCSD CSE30: Computer Organization and Systems Programming (Spring 2019, Winter 2018)
- UCSD CSE11: Introduction to CS & OOP (Fall 2018)

SERVICE

Reviewer

- Conference: AAAI (2021-2022), ICML (2021-), NeurIPS (2021-), ALT (2024-), ICLR (2022-).
- Journal: Journal of Machine Learning Research, IEEE Transactions on Signal Processing.
- Top reviewer award (NeurIPS 2022).