

Yi Tian

CONTACT	tianyi.thu@gmail.com https://yi-t.github.io Google Scholar LinkedIn
EDUCATION	<p>Massachusetts Institute of Technology, Cambridge, MA, USA</p> <p>Ph.D. in Electrical Engineering and Computer Science, 2024, Presidential Fellowship Minor in Mathematics Doctoral thesis: <i>Representation Learning for Control: Lessons from Partially Observable Linear Dynamical Systems</i> Thesis committee: Suvrit Sra (advisor), Ali Jadbabaie, Russ Tedrake, John Tsitsiklis</p> <p>M.S. in Electrical Engineering and Computer Science, 2021, GPA: 5.0/5.0 Master's thesis: <i>Online Reinforcement Learning in Factored Markov Decision Processes and Unknown Markov Games</i></p> <p>Tsinghua University, Beijing, China</p> <p>B.E. in Automation, Jul. 2019, GPA: 3.93/4.0, Top Grade Scholarship (10/3600) Bachelor's thesis: <i>Asynchronous and Distributed Training of Deep Neural Networks</i> Outstanding Graduate Awards, both Tsinghua University and City of Beijing Pre-college: Silver Medal in the 30th Chinese Physics Olympiad (2013)</p>
SKILLS	GenAI, LLM Agents, Reinforcement Learning/Control, Game Theory, Robotics, Optimization
CURRENT POSITION	<p>Meta, Bellevue, WA, USA Sep. 2024 – Present</p> <p>Research Scientist at the Business AI Agent team</p> <ul style="list-style-type: none">• Systematic evaluation of real-world AI agents using LLMs as judges• Multi-lingual synthetic data generation and post-training of LLMs for AI agents
EXPERIENCE	<p>Amazon, Cambridge, MA, USA May. 2022 – Aug. 2022</p> <p>Applied Scientist Intern at the Robotics AI team</p> <ul style="list-style-type: none">• NeRF-based training of dense descriptors for bin manipulation <p>Amazon, Palo Alto, CA, USA Jun. 2021 – Aug. 2021</p> <p>Applied Scientist Intern at the Search AI team</p> <ul style="list-style-type: none">• Multi-task training of deep-learning-based ranking models <p>Massachusetts Institute of Technology, Cambridge, MA, USA Sep. 2019 – Aug. 2024</p> <p>Research Assistant with Suvrit Sra, Laboratory for Information and Decision Systems</p> <ul style="list-style-type: none">• Provable state representation learning for control (also with Russ Tedrake, Kaiqing Zhang)• Sample-efficient reinforcement learning in Markov decision processes and Markov games <p>Massachusetts Institute of Technology, Cambridge, MA, USA Jan. 2022 – May 2022</p> <p>Teaching Assistant for <i>Dynamic Programming and Reinforcement Learning</i> by John Tsitsiklis</p>
SELECTED PUBLICATIONS	<p>Yi Tian, Kaiqing Zhang, Russ Tedrake, Suvrit Sra. Cost-Driven Representation Learning for Linear Quadratic Gaussian Control.</p> <ul style="list-style-type: none">• Part I: Can Direct Latent Model Learning Solve Linear Quadratic Gaussian Control? <i>5th Annual Learning for Dynamics & Control Conference (L4DC)</i>, 2023. (Oral)• Part II: Toward Understanding State Representation Learning in MuZero: A Case Study in Linear Quadratic Gaussian Control. <i>62nd IEEE Conference on Decision and Control (CDC)</i>, 2023. <p>Yi Tian*, Yuanhao Wang*, Tiancheng Yu*, Suvrit Sra. Online Learning in Unknown Markov Games. <i>38th International Conference on Machine Learning (ICML)</i>, 2021.</p> <p>Yi Tian*, Jian Qian*, Suvrit Sra. Towards Minimax Optimal Reinforcement Learning in Factored Markov Decision Processes. <i>34th Conference on Neural Information Processing Systems (NeurIPS)</i>, 2020. (Spotlight)</p> <p>Yansong Tang*, Yi Tian*, Peiyang Li, Jiwen Lu, Jie Zhou. Deep Progressive Reinforcement Learning for Skeleton-Based Action Recognition. <i>IEEE Conference on Computer Vision and Pattern Recognition (CVPR)</i>, 2018.</p>