

# Yi Tian

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EDUCATION	<p><b>Massachusetts Institute of Technology</b>, Cambridge, MA, USA</p> <p>Ph.D. in Electrical Engineering and Computer Science, 2024, <b>Presidential Fellowship</b> 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><b>Tsinghua University</b>, Beijing, China</p> <p>B.E. in Automation, Jul. 2019, GPA: 3.93/4.0, <b>Top Grade Scholarship (10/3600)</b> Bachelor's thesis: <i>Asynchronous and Distributed Training of Deep Neural Networks</i> <b>Outstanding Graduate Awards</b>, both Tsinghua University and City of Beijing Pre-college: <b>Silver Medal</b> in the 30th Chinese Physics Olympiad (2013)</p>
SKILLS	Generative AI, Reinforcement Learning, Control Theory, Game Theory, Robotics, Optimization
CURRENT POSITION	<p><b>Meta</b>, Bellevue, WA, USA     Sep. 2024 – Present</p> <p>Research Scientist at the Business AI Agent team (Monetization GenAI)</p> <ul style="list-style-type: none"><li>• Automatic evaluation of AI agents using LLMs</li><li>• Multi-lingual synthetic data generation for AI agent fine-tuning</li></ul>
EXPERIENCE	<p><b>Amazon</b>, Cambridge, MA, USA     May. 2022 – Aug. 2022</p> <p>Applied Scientist Intern at the Robotics AI team</p> <ul style="list-style-type: none"><li>• NeRF-based training of dense descriptors for bin manipulation</li></ul> <p><b>Amazon</b>, 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"><li>• Multi-task training of deep-learning-based ranking models</li></ul> <p><b>Massachusetts Institute of Technology</b>, 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"><li>• Provable state representation learning for control (also with Russ Tedrake, Kaiqing Zhang)</li><li>• Sample-efficient reinforcement learning in Markov decision processes and Markov games</li></ul> <p><b>Massachusetts Institute of Technology</b>, 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><b>Yi Tian</b>, Kaiqing Zhang, Russ Tedrake, Suvrit Sra. Cost-Driven Representation Learning for Linear Quadratic Gaussian Control.</p> <ul style="list-style-type: none"><li>• Part I: Can Direct Latent Model Learning Solve Linear Quadratic Gaussian Control? <i>5th Annual Learning for Dynamics &amp; Control Conference (L4DC)</i>, 2023. (<b>Oral</b>)</li><li>• 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.</li></ul> <p><b>Yi Tian*</b>, Yuanhao Wang*, Tiancheng Yu*, Suvrit Sra. Online Learning in Unknown Markov Games. <i>38th International Conference on Machine Learning (ICML)</i>, 2021.</p> <p><b>Yi Tian*</b>, 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. (<b>Spotlight</b>)</p> <p>Yansong Tang*, <b>Yi Tian*</b>, 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>