

EDUCATION

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|---|-----------------------------|
| Massachusetts Institute of Technology — GPA: 5.00/5.00 | Cambridge, MA |
| • <i>B.S. in Physics/Artificial Intelligence and Decision Making</i> | <i>Aug 2025 – Present</i> |
| Tsinghua University — GPA: 3.95/4.00 | Beijing, China |
| • <i>Preparatory Program and Freshman Year in Institute for Interdisciplinary Information Sciences (IIIS)</i> | <i>Aug 2024 – July 2025</i> |

HONORS & AWARDS

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| • <i>Gold Medal (1st in Theory)</i> , 54th International Physics Olympiad (IPhO) | <i>July 2024</i> |
| • <i>Gold Medal (3rd Place)</i> , 9th Romanian Master of Physics (RMPh) | <i>March 2023</i> |
| • <i>2nd Place Modal Prize</i> , HackMIT 2025 | <i>Sept 2025</i> |
| • <i>1st Place</i> , MIT Informatics Tournament (MITiT) 2025 Winter Contest Beginner's Round | <i>Dec 2025</i> |
| • <i>Xuetangban Scholarship & Freshman Scholarship</i> , Tsinghua University | <i>Dec 2024</i> |

EXPERIENCE

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| Undergraduate Researcher, Diffusion Models & Molecular Dynamics | Cambridge, MA |
| • <i>MIT; Supervised by Prof. Tommi Jaakkola</i> | <i>Feb 2026 – Present</i> |
| ◦ Researching the intersection of diffusion models and molecular dynamics. | |
| Undergraduate Researcher, Reinforcement Learning & Embodied AI | Cambridge, MA |
| • <i>FortyFive AI Lab, MIT; Supervised by Dr. Ge Yang</i> | <i>Oct 2025 – Present</i> |
| ◦ Developing RL and imitation learning pipelines for humanoid whole-body control; investigating scaling laws for policy performance and generalization. | |
| ◦ Contributed to productionization of Vuer (3D visualization) and ML-Dash (experiment tracking & data storage). | |
| Undergraduate Researcher, Learning-based Control | Beijing, China |
| • <i>Tsinghua University; Supervised by Prof. Huazhe Xu</i> | <i>Mar 2025 – Aug 2025</i> |
| ◦ Investigated RIR (RL to Imitation to Real-world) framework for robot manipulation on Franka arm, leveraging PPO and DrQ-v2. | |
| ◦ Designed multi-stage approach for specialist training and multitask generalization via imitation learning and sim-to-real transfer. | |

PROJECTS

- **Fast Humanoid Loco-Manipulation via Flow Matching (MIT 6.4210)**: Compared DDPM and Flow Matching for humanoid control via trajectory synthesis, achieving faster inference with FM. At 5-NFE, FM achieves **820 vs. 280 survival steps**. Zero-shot loco-manipulation from walking-only data via test-time classifier guidance. [Code] [Video]
- **RL vs. SFT for Mathematical Reasoning in LLMs (MIT 6.4610)**: Compute-controlled comparison of PPO, GRPO, GMPO, RLOO against SFT on Qwen3-8B. GMPO achieves **74.2%** on GSM8K (vs. SFT 76.7%), demonstrating RL can match SFT without step-by-step supervision. [Code]
- **Enhancing Diffusion Models with RL and Adversarial Rewards**: Formulated reverse diffusion as MDP with adversarial discriminators, achieving **21.7% FID reduction** vs. baseline. Plug-and-play for existing models. [Code & Report]
- **PaperPlay: Hand-drawn Sketches to Playable Games (HackMIT 2025)**: Built system turning sketches into games using OpenCV, physics engine, and real-time AI commentary. [Demo] [Video]
- **Consistent Local Video Editing via Attention Manipulation (CLEVAM-DM)**: Training-free framework for local video editing using BrushNet inpainting, DDIM inversion, and PerVFI for temporal coherence. [Code & Report]
- **Daily Papers: Personalized ArXiv Research Digest**: Agentic LLM pipeline for autonomous paper discovery: multi-step relevance filtering, ranking, and summarization over arXiv/HuggingFace feeds with automated email delivery. [Code]
- **Algorithm Design for the Metric k-Center Problem**: Authored survey and evaluation framework. Proposed algorithms achieving empirical approximation ratio **1.049** (vs. SCR 1.064). [Code & Survey]

RELEVANT COURSEWORK

ML/AI: Symmetry & Applications to ML (6.7970/8.750), Advances in Computer Vision (6.8300), Robotic Manipulation (6.4210), Natural Language Processing (6.4610), Computer Vision (6.4300), Deep Learning (Tsinghua), Intro to Inference (6.3800), Intro to Machine Learning (6.3900)

Math/Theory: Quantum Computation (18.435), Quantum Physics II (8.05), Design & Analysis of Algorithms (6.1220), Mathematics for CS and AI (Tsinghua)

SKILLS

Programming: Python (PyTorch), C++

Languages: English (Fluent), Chinese (Native)