

Yifan Kang

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Education

Massachusetts Institute of Technology (*B.S., Mathematics and Computer Science*) 2024 – Present

- GPA: 5.0/5.0 **Selected Coursework:** Deep Learning (6.7960), Machine Learning (6.7900), NLP (6.4610), Robotics (6.4200), Robotics Manipulation (6.4210), Advanced Algorithms (6.5210).

Research Experience

Research Intern @ 2077AI Jun. 2026 – Present

- Built **ENCORE**: a coding agent generates manipulation programs from **3 demonstrations** and self-repairs from **execution traces**, achieving **95.1%** success on LIBERO-PRO.
- Fine-tuned **vision-language-action (VLA) models with LoRA** for real-robot manipulation and validated the resulting policies on physical hardware.
- Deployed **robot-use agents on ALOHA** for long-horizon bimanual manipulation and evaluated task execution on real robots.

Student Researcher @ MIT (*Prof. Leslie Pack Kaelbling*) Jun. 2025 – Present

- Worked on **training-free, few-shot adaptation** for robotic manipulation through **retrieval-based policies**.

Student Researcher @ MIT (*Prof. Antonio Torralba*) Jun. – Aug. 2025

- Co-first author of *Doodle Agent: Exploring Freeform Visual Generation with Multimodal LLMs* (Accepted to **ICCV 2025 AI4VA Workshop**).

Interpreting Diffusion Language Models Over Denoising Time 2026

Trained sparse autoencoders and cross-layer transcoders on diffusion LLMs, with timestep-aware tracing and causal interventions (Accepted to **CoLM 2026 Workshop on Non-Autoregressive LMs**).

Selected Publications

- *KeyFlow: Agentic Policy Adaptation with Episodic Memory*. **CoRL 2026 Workshop Learn@Deploy**. Y. Kang*, B. Zandonati*, T. Lozano-Pérez, L. P. Kaelbling. (*Co-first authors)
- *ENCORE: Few-Shot Agentic Discovery of Manipulation Strategies*. **CoRL 2026 Workshop on Agentic Robotics; NeurIPS 2026 Robot Learning Workshop (Oral, 6/43)**. Y. Kang, Z. Wang, Z. Fan, B. Liu.
- *Generalized Planning Interfaces for Agentic Robotics*. **CoRL 2026 Workshop on Agentic Robotics**. B. Zandonati, Y. Kang, T. Lozano-Pérez, L. P. Kaelbling.

Selected Projects

Autonomous Racecar (*MIT Robotics: Science & Systems*) Feb. – May 2026

- Built a full autonomy stack on a **ROS2 racecar** (LiDAR, camera, odometry): particle-filter localization, path planning, and pure-pursuit control; final challenge combined high-speed lane keeping with **YOLO**-based autonomous parking and traffic-light handling.

Awards & Honors

William Lowell Putnam Mathematical Competition — Rank 254	2024
United States of America Mathematical Olympiad (USAMO) — Honorable Mention	2023
MIT CSAIL Agentic AI Hackathon — Winner (Jane Street Award)	2026
United States of America Computing Olympiad (USACO) — Finalist (Top 26)	2022