Yunfan Jiang

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RESEARCH INTEREST

I am interested in the intersection of machine learning and robotics with a focus on **learning mobile, whole-body manipulation for real-world tasks**.

EDUCATION

Stanford University, Stanford, CA — Sept. 2023 – Now
Ph.D. in Computer Science, advised by Prof. Fei-Fei Li

Stanford University, Stanford, CA — June 2023
M.S. in Electrical Engineering

The University of Edinburgh, Edinburgh, UK — July 2020
B.Eng. in Electronics & Electrical Engineering with First-Class Honours

HONORS & AWARDS

- IEEE ICRA 2024 Best Conference Paper Award — 2024
- NeurIPS 2023 Scholar Award — 2023
- **Stanford Engineering Exceptional Master's Student Award** — 2023
- ICML Conference Travel Award — 2023
- **NeurIPS 2022 Outstanding Paper Award** — 2022
- Ewart Farvis Prize (Outstanding Bachelor Thesis) — 2020
- The University of Edinburgh School of Engineering Scholarship — 2018, 2019

EXPERIENCE

Stanford Vision and Learning Lab — Stanford, CA
Graduate Research Assistant — Sept. 2023 – Now

- Advised by Prof. Fei-Fei Li.
- Built synergistic frameworks for learning whole-body manipulation for everyday household activities [1].
- Developed novel methods for robotic policy learning, with a focus on sim-to-real transfer by learning from human correction [3] and real-to-sim-to-real transfer for robust policy learning [2].

Boston Dynamics AI Institute — Cambridge, MA
Research Intern — June 2023 – Aug. 2023

- Hosted by Dr. David Watkins and Dr. Jennifer Barry.
- Developed *VIMA+*, an extension of VIMA [7] to a real UR5e robot.
- Investigated video prediction models for robotic manipulation at scale.

NVIDIA Research — Santa Clara, CA
Research Intern ⋄ AI Algorithm Team — June 2022 – Jan. 2023

- Hosted by Dr. Jim Fan, Prof. Yuke Zhu, and Prof. Anima Anandkumar.
- Developed embodied agents empowered by foundation models in various domains such as those related to robot learning [7] and open-ended video games [8, 5].
- Created a novel algorithm to enhance Transformer agents' learning efficiency and generalization [6].

TECHNICAL REPORTS

[1] Yunfan Jiang, Ruohan Zhang, Josiah Wong, Chen Wang, Yanjie Ze, Hang Yin, Cem Gokmen, Shuran Song, Jiajun Wu, and Li Fei-Fei. "BEHAVIOR Robot Suite: Streamlining Real-World Whole-Body Manipulation for Everyday Household Activities". In: *arXiv preprint arXiv: 2503.05652* (2025).

REFEREED PUBLICATIONS

* Equal contribution. † Equal advising.

[2] Tianyuan Dai*, Josiah Wong*, **Yunfan Jiang**, Chen Wang, Cem Gokmen, Ruohan Zhang, Jiajun Wu, and Li Fei-Fei. "Automated Creation of Digital Cousins for Robust Policy Learning". In: *8th Annual Conference on Robot Learning (CoRL)*. 2024.

[3] **Yunfan Jiang**, Chen Wang, Ruohan Zhang, Jiajun Wu, and Li Fei-Fei. "TRANSIC: Sim-to-Real Policy Transfer by Learning from Online Correction". In: *8th Annual Conference on Robot Learning (CoRL)*. 2024.

[4] Abby O'Neill et al. "Open X-Embodiment: Robotic Learning Datasets and RT-X Models : Open X-Embodiment Collaboration[0]". In: *2024 IEEE International Conference on Robotics and Automation (ICRA)*. 2024, pp. 6892–6903. DOI: 10.1109/ICRA57147.2024.10611477. **Best Conference Paper Award**.

[5] Guanzhi Wang, Yuqi Xie, **Yunfan Jiang***, Ajay Mandlekar*, Chaowei Xiao, Yuke Zhu, Linxi Fan†, and Anima Anandkumar†. "Voyager: An Open-Ended Embodied Agent with Large Language Models". In: *Transactions on Machine Learning Research* (2024). ISSN: 2835-8856. Also **Oral Presentation** at NeurIPS 2023 Agent Learning in Open-Endedness Workshop and Intrinsically Motivated Open-Ended Learning Workshop.

[6] Lucy Xiaoyang Shi*, **Yunfan Jiang***, Jake Grigsby, Linxi Fan†, and Yuke Zhu†. "Cross-Episodic Curriculum for Transformer Agents". In: *Conference on Neural Information Processing Systems (NeurIPS)*. 2023.

[7] **Yunfan Jiang**, Agrim Gupta*, Zichen Zhang*, Guanzhi Wang*, Yongqiang Dou, Yanjun Chen, Li Fei-Fei, Anima Anandkumar, Yuke Zhu†, and Linxi Fan†. "VIMA: General Robot Manipulation with Multimodal Prompts". In: *International Conference on Machine Learning (ICML)*. 2023. Also **Oral Presentation** at NeurIPS 2022 Foundation Models for Decision Making Workshop.

[8] Linxi Fan, Guanzhi Wang*, **Yunfan Jiang***, Ajay Mandlekar, Yuncong Yang, Haoyi Zhu, Andrew Tang, De-An Huang, Yuke Zhu†, and Anima Anandkumar†. "MineDojo: Building Open-Ended Embodied Agents with Internet-Scale Knowledge". In: *Conference on Neural Information Processing Systems (NeurIPS), Datasets and Benchmarks Track*. 2022. **Outstanding Paper Award, Featured Paper Presentation**.

[9] Yueyi Jiang, **Yunfan Jiang**, Liu Leqi, and Piotr Winkielman. "Many Ways to Be Lonely: Fine-Grained Characterization of Loneliness and Its Potential Changes in COVID-19". In: *Proceedings of the International AAAI Conference on Web and Social Media (ICWSM)* 16.1 (May 2022), pp. 405–416.

[10] **Yunfan Jiang**, Jingjing Si, Rui Zhang, Godwin Enemali, Bin Zhou, Hugh McCann, and Chang Liu. "CSTNet: A Dual-Branch Convolutional Neural Network for Imaging of Reactive Flows Using Chemical Species Tomography". In: *IEEE Transactions on Neural Networks and Learning Systems* 34.11 (2023), pp. 9248–9258. DOI: 10.1109/TNNLS.2022.3157689. Submitted in 2020.

SOFTWARE

[S1] *BEHAVIOR-Robot-Suite*. `https://github.com/behavior-robot-suite/brs-algo` and `https://github.com/behavior-robot-suite/brs-ctrl`. **150+ GitHub Stars**.

[S2] *TRANSIC*. `https://github.com/transic-robot/transic` and `https://github.com/transic-robot/transic-envs`. **100+ GitHub Stars**.

[S3] *VIMA*. `https://github.com/vimalabs/VIMA` and `https://github.com/vimalabs/VIMABench`. **1K+ GitHub Stars**.

[S4] *MineDojo*. `https://github.com/MineDojo/MineDojo` and `https://github.com/MineDojo/MineCLIP`. **2.1K+ GitHub Stars**.

SPEECHES

"VIMA: General Robot Manipulation with Multimodal Prompts" [pdf]

- Invited Talk at Boston Dynamics AI Institute — Feb. 2023
- Oral Presentation at NeurIPS 2022 Foundation Models for Decision Making Workshop, New Orleans, LA — Dec. 2022
- Invited Talk at Prof. Anima Anandkumar's Caltech Group — Nov. 2022
- Invited Talk at Inspir.ai — Oct. 2022

"MineDojo: Building Open-Ended Embodied Agents with Internet-Scale Knowledge" [pdf]

- Lecture Talk at Stanford CS 422 Interactive and Embodied Learning — Feb. 2023
- Invited Talk at Inspir.ai — Oct. 2022
- Co-presentation at Prof. Anima Anandkumar's Caltech Group — Aug. 2022

PROFESSIONAL SERVICES

Journal Reviewer

- IEEE Robotics and Automation Letters (RA-L)

Conference Reviewer

- Conference on Robot Learning (CoRL)
- International Conference on Machine Learning (ICML)
- International Conference on Learning Representations (ICLR)
- Conference on Neural Information Processing Systems (NeurIPS)
- International Conference on Intelligent Robots and Systems (IROS)
- AAAI Conference on Artificial Intelligence (AAAI)

Workshop Organizer

- *Organizer*, Mobile Manipulation: Emerging Opportunities & Contemporary Challenges, Robotics: Science and Systems (RSS), 2025
- *Program Committee*, 2nd Workshop on Foundation Models for Decision Making, Conference on Neural Information Processing Systems (NeurIPS), 2023

TEACHING

Course Assistant, Stanford University

- CS231N Deep Learning for Computer Vision, Spring 2025, Instructors: Prof. Fei-Fei Li and Prof. Ehsan Adeli

Course Grader, Stanford University

- ENGR76 Information Science and Engineering, Spring 2023, Instructor: Prof. Ayfer Özgür
- EE364A Convex Optimization I, Winter 2023, Instructor: Prof. Stephen Boyd
- EE277 Reinforcement Learning: Behaviors and Applications, Fall 2021, Instructor: Prof. Benjamin Van Roy
- EE236A Modern Optics, Fall 2021, Instructor: Dr. Mohammad Zaman

SELECTED MEDIA COVERAGE

[M1] Stanford Electrical Engineering 2023 Commencement Ceremony and Awards, June 20, 2023. URL: https://ee.stanford.edu/2023-commencement-ceremony-and-awards.

[M2] NVIDIA GTC Jensen Huang Keynote, Mar. 21, 2023. URL: https://www.nvidia.com/en-us/on-demand/session/gtcspring23-s52226/.

[M3] "Building Generally Capable AI Agents with MineDojo," by Nathan Horrocks, *NVIDIA Blog*. July 1, 2022. URL: https://developer.nvidia.com/blog/building-generally-capable-ai-agents-with-minedojo/.