Xijia "Polina" Zhang

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Education

Georgia Institute of Technology   Aug. 2024 – May. 2029
Ph.D. in Robotics

University of Michigan   Sep. 2022 – May. 2024
B.S.E in Computer Science

Shanghai Jiao Tong University   Sep. 2020 – Aug. 2024
B.E in Electrical and Computer Engineering

Research Focus

Previous: Developing robotic systems that enhance human-robot collaboration, specifically focusing on natural language explanations.

Current: Algorithmically improve foundation models (LLMs, VLMs, and VLAs) for robotics settings.

Relevant Publications

"Model-Agnostic Policy Explanations with Large Language Models" ⬀
Zhang Xi-Jia, Yue Guo, Shufei Chen, Simon Stepputtis, Matthew Gombolay, Katia Sycara, Joseph Campbell   COLM 2025 (**top 5% of submissions**)

– Propose a method for generating natural language explanations of agent behavior based only on observed states and actions, without access to the agent's underlying model.

"Learning Effective Action Advising in the Face of Changing Rewards" ⬀
Yue Guo, **Zhang Xi-Jia**, Simon Stepputtis, Joseph Campbell, Katia Sycara   CoLLAs 2024 (**Oral**)

– Enable the teacher policy to continually learn and adapt its reward function through ongoing observation of the student when providing action advices.

"Teaching the Teacher: Enhancing Human-to-Robot Skill Demonstration with Live Foundation Model and Augmented Reality Feedback"
Nina Moorman, Matthew Luebbers, **Zhang Xi-Jia**, Zulfiqar Zaidi, Marcus Lau, Yixing Yao, Megan Langwasser, Letian Chen, Sanne van Waveren, Matthew Gombolay   *(in submission)*

– Support non-expert users in providing kinesthetic demonstrations through language explanations and policy visualizations.
– Contributions: Language explanations.

"Communication and Verification in LLM Agents towards Collaboration under Information Asymmetry
Run Peng, Ziqiao Ma, Amy Pang, Sikai Li, **Zhang Xi-Jia**, Yingzhuo Yu, Cristian-Paul Bara, Joyce Chai
                                                                        (in submission)

– Investigate the performance of LLM agents in human-robot collaboration tasks under information asymmetry.
– Contributions: TIAGo robot development.

See full list of publications [link]

Skills

`Toolchain`	ROS, ROS2, Linux, Docker, Huggingface, RLlib
`Frameworks & Libraries`	Gym, NLTK, Transformers, Pytorch, Scikit-Learn
`Robotics Development`	TIAGo, Jaco Arm, Khepera, Fetch; RViz, Gazebo

Honors & Awards

Sep. 2024	Robotics Fellowship	*Georgia Institute of Technology*
Mar. 2024	James B. Angell Scholar	*University of Michigan*
Apr. 2024	Elected Member	*Tau Beta Pi, Michigan Gamma*
Dec. 2023	Dean's List	*University of Michigan*
Apr. 2023	Dean's List	*University of Michigan*
Dec. 2022	Dean's List	*University of Michigan*
May. 2023	Chun-Tsung Scholar	*Shanghai Jiao Tong University*
Oct. 2021	Rongchang Innovation Scholarship Nomination	*Shanghai Jiao Tong University*
Nov. 2021	Silver Medal	*The University Physics Contest*