# Xijia "Polina" Zhang

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## Education

**Georgia Institute of Technology**                                          Aug. 2024 – Dec. 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 Focuses

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

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

## 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

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|---|---|
| `Toolchain` | ROS, ROS2, Linux, Docker, Huggingface, RLlib |
| `Frameworks & Libraries` | Gym, NLTK, Transformers, Pytorch, Scikit-Learn |
| `Foundation Model` | LLM fine-tuning, prompting; LoRA, GRPO |
| `Robotics Development` | TIAGo, Jaco Arm, Khepera, Fetch; RViz, Gazebo |

## Honors & Awards

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|---|---|---|
| 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* |