Wo Wei Lin

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Website: https://wwlin1198.github.io/wwlin.github.io/

EDUCATION

Northeastern University   Boston, MA
Ph.D Computer Science: AI and Robotics   Expected Graduation: May 2028

Northeastern University   Boston, MA
M.S Computer Science: AI   Expected Graduation: Dec 2025

Tufts University   Medford, MA
B.S Computer Engineering   Graduated: May 2023

Profile

PhD Student at Northeastern University pursuing research in Robotics and AI with a focus on Multi-Agent Reinforcement Learning, Multi-Robot Learning, and Human Robot Collaboration; advised by Christopher Amato.

SKILLS and TECHNICAL

Language(s): **Fluent:** English, Taishanese **Intermediate:** Cantonese **Elementary:** Spanish
Skills: Python, Linux, ROS, GIT, VHDL, PyTorch, LLM, Deep Learning, Artificial Intelligence, Machine Learning

WORK EXPERIENCE

Northeastern University: Multimodal Learning, Interaction and Perception Lab
Boston, MA
Research Assistant
August 2023 - *Present*

- Research in multi-agent algorithms that will allow robots to work in coordination to solve complex real-world tasks
- Research in the intersection of cybersecurity, reinforcement learning, and robotics by designing environments and code for poisoning attacks on agents.
- Teacher Assistant for the Reinforcement Learning class

Tufts University: Multimodal Learning, Interaction and Perception Lab   Medford, MA
Research Assistant
August 2019 - *May 2023*

- Research in multi-agent algorithms that will allow robots to work in coordination to solve complex real-world tasks
- Developed models and simulations for different environments in Gazebo and Pybullet for reinforcement learning research in curriculum learning, creative problem-solving, and knowledge transfer learning
- Conducted experiments with robots in simulation and the real-world to show efficiency of various reinforcement learning algorithms
- Researched *Lifelong Creative Problem Solving* on the Baxter and Universal Robotics Arm in simulation and real life to discover new actions for solving problems in novel scenarios

NASA: Goddard Space Flight Center (OSTEM)
Greenbelt, MD
Research Intern
June 2022 - August 2022

- Designed and implemented a working proof of concept towards the challenge of collecting scientific data in autonomous space exploration individually
- Developed an environment that will allow spacecraft to utilize deep reinforcement learning algorithms to maintain themselves autonomously in various scenarios while in space
- Achieved results where the spacecraft is able to make its own sequence of decisions to collect science objectives
- Presented results to branch head and other NASA employees

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TECHNICAL PROJECTS

Human Robot Interaction Class Project
Boston, MA

December 2024

- Started a project exploring the intersection between human robot interaction (HRI) and multi-agent reinforcement learning
- Developed a novel algorithm on multi-agent partially observable inverse reinforcement learning to teach robot teamwork and interpersonal skills using human expert data

Publication and Works

- E. Gizzi, A. Hassan, W. W. Lin, K. Rhea and J. Sinapov, "Toward Creative Problem Solving Agents: Action Discovery through Behavior Babbling," 2021 IEEE International Conference on Development and Learning (ICDL), 2021, pp. 1-7, doi: 10.1109/ICDL49984.2021.9515658.
- Gizzi, E., Castro, M. G., Lin, W. W., & Sinapov, J. A Framework for Creative Problem Solving Through Action Discovery 2021.
- E. Gizzi, W. W. Lin, M. G. Castro, E. Harvey, J. Sinapov, "Toward Life-Long Creative Problem Solving: Using World Models for Increased Performance in Novelty Resolution" 2022 ICCC.