Yichen Wei

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in LinkedIn
○ GitHub
Google Scholar

Education

2023–2025 **Brown University**
M.S. in Computer Science
Advisor: Stefanie Tellex and George Konidaris

2018–2022 **Tufts University**
B.S. in Computer Science
Advisor: Jivko Sinapov

Research Experience

Sep. 2023 – now **Research Assistant**, Brown University

- **LTL-Protogoal**: Lead a research project in Reinforcement Learning exploration in the LTL task specification space. Our agent proposes LTL expressions that it conjectures to be achievable and desirable for maximizing its learning progress in the environment and uses a combination of planning and goal-conditioned RL to solve the task described by that LTL. Work in progress.
- **LaNMP Dataset**: Developed data collection scripts on Boston Dynamics Spot and created a data pipeline for evaluation.
  Accepted at RSS 2024 Workshops Data Generation for Robotics and Robotic Task Specification.
- **VR-Teleop**: Developed ROS code that aligns the global coordinate of two Boston Dynamics Spot using fiducials on the wall.

Jan. 2022 – Oct. 2023 **Research Assistant**, Tufts University

- Led design and implementation of **NovelGridWorldsV2** and **NovelGym**, a highly customizable and open-source Minecraft-like grid world gym environment suitable for planning and reinforcement learning agents, to test the agent's reaction to sudden changes to environment dynamics in the open world.
  Published at AIJ and AAMAS 2024.
- Implemented an RL agent to learn new options for the PDDL planner to recover from execution failures.

Selected Publications

CoRL 2024 LEAP **Structured Exploration in Reinforcement Learning by Hypothesizing Linear Temporal Logic Formulas**
Yichen Wei, Xiaochen Li, Jason Xinyu Liu, Naman Shah, Benedict Quartey, George Konidaris, Stefanie Tellex, Akhil Bagaria

Work in progress.
Presented at CoRL 2024 Workshop on Learning Effective Abstractions for Planning (LEAP)

AAMAS 2024 (Oral)	**NovelGym: A Flexible Ecosystem for Hybrid Planning and Learning Agents Designed for Open Worlds**
	Shivam Goel, **Yichen Wei**, Panagiotis Lymperopoulos, Klara Chura, Matthias Scheutz, Jivko Sinapov
	International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2024 [**Oral**][Paper, GitHub]
AIJ 2024	**A neurosymbolic cognitive architecture framework for handling novelties in open worlds**
	Shivam Goel, Panagiotis Lymperopoulos, Ravenna Thielstrom, Evan A. Krause, Patrick Feeney, Pierrick Lorang, Sarah Schneider, **Yichen Wei**, Eric J. Kildebeck, Stephen A. Goss, Michael C. Hughes, Li-Ping Liu, Jivko Sinapov, Matthias Scheutz
	Artificial Intelligence, 331, 104111. [Paper]
RSS 2024 TaskSpec DGR	**LaNMP: A Language-Conditioned Mobile Manipulation Benchmark for Autonomous Robots**
	Ahmed Jaafar, Shreyas Sundara Raman, **Yichen Wei**, Sofia E. Juliani, Anneke Wernerfelt, Ifrah Idrees, Jason Xinyu Liu, Stefanie Tellex
	Robotics: Science and Systems (RSS) 2024 Workshop on Robotic Task Specification Robotics: Science and Systems (RSS) 2024 Workshop on Data Generation for Robotics

Industry Experience

Aug. 2020 – Aug.2021	**Duyun Consulting Co., Ltd**, *Shenzhen, China*
	○ Led a five-person team that built an app that streamlines the process of starting a company, using React / Typescript as frontend and Django Rest Framework as backend.

Services

Teaching Assistant at Tufts University

Fall 2020	**CS 15: Data Structures**
Fall 2019	**EN 1: Intro to Computational Design**