

Yilin Wu

Homepage: <https://yilin-wu98.github.io>

Email: yilinwu@andrew.cmu.edu

[Linkedin](#), [Google Scholar](#)

Tel: 650-630-9454

EDUCATION

Carnegie Mellon University	<i>Aug. 2023 - Now</i>
Ph.D. in Robotics Advisor: David Held	
Stanford University	<i>Sept. 2021 - Jun. 2023</i>
M.S. in Computer Science GPA: 4.07/4.3	
Shanghai Jiao Tong University	<i>Sept. 2016 - Jun. 2020</i>
B.S. in Information Security Rank: 1/104 GPA: 91.65/100	
University of California, Berkeley	<i>Jan. - May. 2019</i>
International Exchange student in Spring Semester GPA: 4.0/4.0	

PUBLICATION

Learning Generalizable Tool-use Skills through Trajectory Generation

Carl Qi*, [Yilin Wu*](#), Lifan Yu, Haoyue Liu, Bowen Jiang, Xingyu Lin**, David Held**

In submission to *IEEE/RSJ International Conference on Intelligent Robots and Systems(IROS)*, 2024.

Spatially-Grounded Motion Primitives for Manipulation

Bowen Jiang, [Yilin Wu](#), Wenxuan Zhou, Chris Paxton, David Held

In submission to *Robotics: Science and Systems(RSS)*, 2024.

Stabilize to Act: Learning to Coordinate for Bimanual Manipulation

Jennifer Grannen, [Yilin Wu](#), Brandon Vu, Dorsa Sadigh

The Conference on Robot Learning (CoRL), Nov. 2023, **Oral Presentation**

Preprint: <https://arxiv.org/pdf/2309.01087>

In-Mouth Robotic Bite Transfer with Visual and Haptic Sensing

Lorenzo Shaikewitz*, [Yilin Wu*](#), Suneel Belkhale*, Jennifer Grannen, Priya Sundareshan, Dorsa Sadigh

International Conference on Robotics and Automation (ICRA), May. 2023

Preprint: <https://arxiv.org/abs/2211.12705>

Learning Bimanual Scooping Policies for Food Acquisition

Jennifer Grannen*, [Yilin Wu*](#), Suneel Belkhale, Dorsa Sadigh

The Conference on Robot Learning (CoRL), Dec. 2022

Preprint: <https://arxiv.org/abs/2211.14652>

Solving Compositional Reinforcement Learning Problems via Task Reduction

Yunfei Li, [Yilin Wu](#), Huazhe Xu, Xiaolong Wang, Yi Wu

The International Conference on Learning Representations(ICLR), May. 2021

Preprint: <https://arxiv.org/abs/2103.07607>

Learning to Manipulate Deformable Objects without Demonstrations

[Yilin Wu*](#), Wilson Yan*, Thanard Kurutach, Lerrel Pinto, Pieter Abbeel

Robotics: Science and Systems(RSS), July. 2020

Preprint: <https://arxiv.org/abs/1910.13439>

RESEARCH EXPERIENCE

CMU Robots Perceiving And Doing (RPAD)

Sept. 2023 - Now

Research Assistant supervised by *Prof. David Held*

- Research in long-horizon manipulation with spatially grounded primitives and bimanual manipulation.

Stanford Intelligent and Interactive Autonomous Systems Group (ILIAD)

Sept. 2021 - Jun., 2023

Research Assistant supervised by *Prof. Dorsa Sadigh*

- Research in bimanual manipulation with imitation learning and assistive feeding including bimanual food acquisition and bite transfer with visual and haptic sensing.

Shanghai Qi Zhi Institute

Sept. 2020 - Jun. 2021

Research Assistant supervised by *Prof. Yi Wu*

- Research in solving long-horizon, sparse-reward tasks with automatic subgoal searching in the latent space and self-imitation.

Berkeley Artificial Intelligence Research Lab, UC Berkeley

May. 2019 - Sept. 2019

Research Assistant supervised by *Prof. Pieter Abbeel*

- Research in using model-free visual Reinforcement Learning to manipulate deformable objects like clothes and ropes.

WORK & TEACHING EXPERIENCE

Stanford University Computer Science Department

Sept. 2021 - Present

Teaching Assistant

- CS 221 Artificial Intelligence: Principles and Techniques Fall 2021, Spring 2022
- CS 182 Ethics, Public Policy, and Technological Change Winter 2022
- CS 148 Introduction to Computer Graphics and Imaging Fall 2022

Applied Deep Learning Research, Nvidia Corporation

Jun. 2022 - Sept. 2022

Research Intern

Improving Efficiency in Model-Based Distributed Reinforcement Learning

- Extended EfficientZero algorithm to continuous action space to improve sample efficiency over Sampled Muzero.
- Deployed concurrent training and data collection in distributed RL and Batch MCTS in continuous Efficientzero to train 2-3 times faster than Sampled Muzero in locomotion tasks.

SKILLS

Programming Skills: Python, PyTorch, TensorFlow, C++/C, Git, L^AT_EX, Verilog

Robotic Simulation and Control Platforms: ROS, Pybullet, Mujoco, IsaacGym

Robots Used: Franka Panda, PR2, Xarm7, UR16e

ACADEMIC SERVICES

External Reviewer for Conferences, Journals

Robotics: Science and Systems (RSS)	2024
The International Conference on Learning Representations (ICLR)	2024
International Conference on Robotics and Automation (ICRA)	2024
The IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)	2023

SCHOLARSHIP HONORS

Graduated with Honor (<i>Outstanding Graduate of Shanghai</i>) (5 among 104 graduates in Information Security)	2020
Hongyi Scholarship (Top 10 Summer Research among Undergraduates)	2019
National Scholarship (awarded to ~ 0.2% undergraduates national wide)	2017