

Yilin Wu

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EDUCATION

Stanford University

Sept. 2021 - Jun. 2023

- M.S. in Computer Science GPA: **4.07/4.3**

Shanghai Jiao Tong University

Sept. 2016 - Jun. 2020

- B.S. in Information Security Rank: **1/104** GPA: **91.89/100**

University of California, Berkeley

Jan. - May. 2019

- International Exchange student in Spring Semester GPA: **4.0/4.0**

PUBLICATION

Lorenzo Shaikewitz*, **Yilin Wu***, Suneel Belkhale*, Jennifer Grannen, Priya Sundaresan, Dorsa Sadigh, In-Mouth Robotic Bite Transfer with Visual and Haptic Sensing, Under review for *International Conference on Robotics and Automation (ICRA)*, May. 2023 [[Website](#)]

Jennifer Grannen*, **Yilin Wu***, Suneel Belkhale, Dorsa Sadigh, Learning Bimanual Scooping Policies for Food Acquisition, *The Conference on Robot Learning (CoRL)*, Dec. 2022 [[Paper](#)][[Website](#)]

Yunfei Li, **Yilin Wu**, Huazhe Xu, Xiaolong Wang, Yi Wu, Solving Compositional Reinforcement Learning Problems via Task Reduction, *The International Conference on Learning Representations (ICLR)*, May. 2021 [[Code](#)] [[Website](#)]

Yilin Wu*, Wilson Yan*, Thanard Kurutach, Lerrel Pinto, Pieter Abbeel, Learning to Manipulate Deformable Objects without Demonstrations, *Robotics: Science and Systems (RSS)*, July. 2020 [[Code](#)] [[Website](#)]

INTERNSHIP

Improving Efficiency in Large-scale Distributed Reinforcement Learning

Jun. 2022 - Sept. 2022

Research Intern at Applied Deep Learning Research, Nvidia

Python, Pytorch

- Extended model-based method EfficientZero to continuous action space to improve sample efficiency over Sampled Muzero in robotic tasks.
- 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.

RESEARCH EXPERIENCE

Stanford Intelligent and Interactive Autonomous Systems Group (ILIAD)

Sept. 2021 - Current

Research Assistant supervised by [Prof. Dorsa Sadigh](#)

Python, Pytorch, C++

Learning Bimanual Scooping Policies for Food Acquisition

- Proposed a general bimanual scooping primitive with closed-loop visual feedback and an adaptive stabilization learning strategy.
- Built the first bimanual scooping system for multi-food acquisition, robust to 14 food types with varied geometries and deformability.
- Achieved 87% success rate on scooping rigid foods, 26% more than a single-arm baseline, and reduced food breakage by 16%.

Shanghai Qi Zhi Institute

Sept. 2020 - Jun. 2021

Research Assistant supervised by [Prof. Yi Wu](#)

Python, Tensorflow

Solving Compositional Reinforcement Learning Problems via Task Reduction

- Tackled compositional, sparse-reward tasks by applying automatic task-reduction and self-imitation in RL framework (PPO&SAC).
- Accelerated training on various challenging tasks, e.g. maze navigation, and reached 60% higher success rate in box stacking task.
- Applied to visual domain by sampling in the latent space of β -VAE and improved sample efficiency over baselines.

Berkeley Artificial Intelligence Research Lab, UC Berkeley

May. 2019 - Sept. 2019

Research Assistant supervised by [Prof. Pieter Abbeel](#)

Python, Tensorflow

Learning to Manipulate Deformable Objects without Demonstrations

- Proposed a model-free visual RL framework with universal value function and conditional action space, thus speeding up the learning by an order of magnitude.
- Built the cloth and rope simulation in Mujoco and used domain randomization to transfer the policy to real robot PR2.
- Became the first to train RL from scratch for deformable object manipulation and demonstrated it on the real robot.

SKILLS

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

Robots Used, Simulation and Control Platforms: Franka Panda, PR2, Xarm7, ROS, Pybullet, Mujoco, IsaacGym

SELECTED SCHOLARSHIP & HONORS

Graduated with honor (*Outstanding Graduate of Shanghai*) 2020

Hongyi Scholarship (*Top 10 Summer Research among Undergraduates*) 2019

National Scholarship (<1%) 2017