Xuxin Cheng

(510) 423-1592   xuxinc@cs.cmu.edu   chengxuxin.github.io

Education

Carnegie Mellon University   08/2021 – 05/2023(Expected)
M.S. in Robotics, School of Computer Science; GPA: 4.08/4.3
Selected Courses: Machine Learning (A+), Computer Vision (A), Kinematics Dynamics and Control (A)

University of California, Berkeley   07/2019 – 01/2021
Visiting student, EECS; GPA: 3.96/4.0
Selected Courses: Deep Reinforcement Learning (A), Optimization (A), Introduction to Robotics (A)

Beijing Institute of Technology   09/2016 – 06/2020
B.S. in Automation Engineering; GPA: 91.5/100 (Rank 1/167)

Publications

* denotes equal contribution

[1] Legs as Manipulator: Pushing Quadrupedal Agility Beyond Locomotion
Xuxin Cheng, Ashish Kumar, Deepak Pathak
In submission to ICRA 2023

[2] Deep Whole-Body Control: Learning a Unified Policy for Manipulation and Locomotion
Zipeng Fu*, **Xuxin Cheng***, Deepak Pathak
Conference on Robot Learning (CoRL) 2022 (Oral, Best System Paper Finalist)

[3] Reinforcement Learning for Robust Parameterized Locomotion Control of Bipedal Robots
Zhongyu Li, **Xuxin Cheng**, Xue Bin Peng, Pieter Abbeel, Sergey Levine, Glen Berseth, Koushil Sreenath
IEEE International Conference on Robotics and Automation (ICRA) 2021

[4] Automated Lane Change Strategy using Proximal Policy Optimization-based Deep Reinforcement Learning
Fei Ye*, **Xuxin Cheng***, Pin Wang, Ching-Yao Chan.
IEEE Intelligent Vehicles Symposium (IV) 2020

[5] Driving Decision and Control for Automated Lane Change based on Deep Reinforcement Learning
Tianyu Shi, Pin Wang, **Xuxin Cheng**, Ching-Yao Chan.
IEEE International Conference on Intelligent Transportation Systems (ITSC) 2019

Research Experience

Learning for Embodied Action and Perception (LEAP) Lab, CMU   11/2021 - Present
Graduate Student Researcher   Advisor: Deepak Pathak
- Learning adaptive legged robot skills with sim-to-real transfer and real-world skill synthesizing.
- Learning high dimensional whole-body control of manipulation and locomotion for legged robots.

Hybrid Robotics Lab (HRL), UC Berkeley   01/2020 - Present
Undergraduate Student Researcher   Advisor: Koushil Sreenath, Xue Bin (Jason) Peng
- Learning visualmotor control for precise bipedal foot placement.
- Learning robust parameterized bipedal locomotion control and sim-to-real.

Partners for Advanced Transportation Technology (PATH), UC Berkeley   07/2019 - 01/2020
Undergraduate student researcher   Advisor: Ching-Yao Chan
- Autonomous lane change maneuvers with deep reinforcement learning.

Industry Experience

Bosch Research and Technology Center, Shanghai, China   01/2021 - 05/2021

Research Intern   Mentor: Hao Sun

- Developed human-portable SLAM hardware and software pipeline for digital twin of indoor and outdoor facility monitoring. The project became products later.

Honors & Awards

Graduation with honor: Outstanding Graduates of Beijing & BIT	2020
Outstanding Student Scholarship (5%, 5 times)	2016-2019
DWIN Scholarship (1%)	2018
National Scholarship (0.2%)	2017

Professional Service

Reviewer

Conference on Robot Learning (CoRL)	2022
International Conference on Robotics and Automation (ICRA)	2021, 2022
International Conference on Intelligent Robotics and Systems (IROS)	2022
Robotics and Automation Letters (RA-L)	2021
Intelligent Vehicles Symposium (IV)	2020

Skills

Programming:	Python, C++, JavaScript, HTML
Tools:	ROS, MATLAB, Pytorch, Tensorflow, MuJoCo, IsaacGym, Raisim, PyBullet, Git, LaTeX
Robots:	Unitree A1/Go1, WidowX