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
    Coference on Robot Learning (CoRL) 2022 (Oral, Best Paper Nomination)

[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

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

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