Xuxin Cheng

xucheng@ucsd.edu chengxuxin.github.io

Education

University of California, San Diego 09/2023 – Present

Ph.D in Computer Science; Advisor: Xiaolong Wang

Carnegie Mellon University 08/2021 – 08/2023

M.S. in Robotics, School of Computer Science; GPA: 4.08/4.3; Advisor: Deepak Pathak
Selected Courses: Machine Learning (A+), Computer Vision (A), Kinematics Dynamics and Control (A)

University of California, Berkeley 07/2019 – 12/2020

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] Extreme Parkour with Legged Robots
Xuxin Cheng*, Kexin Shi*, Ananye Agarwal, Deepak Pathak
arXiv 2023

[2] Legs as Manipulator: Pushing Quadrupedal Agility Beyond Locomotion
Xuxin Cheng, Ashish Kumar, Deepak Pathak
International Conference on Robotics and Automation (ICRA) 2023

[3] 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)

[4] 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

[5] 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

[6] 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

Wang Lab, UCSD 09/2023 - Present

Graduate Student Researcher Advisor: Xiaolong Wang

Learning for Embodied Action and Perception (LEAP) Lab, CMU 11/2021 - 09/2023

Graduate Student Researcher Advisor: Deepak Pathak

- Learning quadrupedal robot locomotion and manipulation.

Hybrid Robotics Lab (HRL), UC Berkeley 01/2020 - 01/2021

Undergraduate Student Researcher Advisor: Koushil Sreenath, Xue Bin (Jason) Peng

- Learning bipedal locomotion 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

- Human-portable SLAM hardware and software pipeline for digital twin of indoor and outdoor scenarios.

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

Invited Talks

Locomotion Seminar CMU, 12/2022
Robotics and Embodied Artificial Intelligence Lab Stanford, 10/2023

Professional Service

Reviewer: CoRL, ICRA, IROS, RA-L, IV
Program Committee: CoRL 2022 Learning to Adapt and Improve in the Real World Workshop

Skills

Programming: Python, C++, JavaScript, HTML
Tools: ROS, MATLAB, Pytorch, Tensorflow, MuJoCo, IsaacGym, Raisim, PyBullet, Git, LaTeX
Robots: Cassie, Unitree A1/Go1/B1, WidowX