

# XUXIN CHENG

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chengxuxin.github.io

## EDUCATION / AWARDS

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### 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 – 07/2020

B.S. in Automation Engineering; GPA: 91.5/100 (Rank 1/167)

## PUBLICATIONS

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\* 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 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

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### 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 visuomotor 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

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**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 becomes products later.

## HONORS & AWARDS

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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

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### 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

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**Languages:** Python, C++, JavaScript, HTML

**Softwares&Tools:** ROS, MATLAB, Pytorch, Tensorflow, MuJoCo, IsaacGym, Raisim, PyBullet, Git,  $\LaTeX$

**Robots:** Unitree A1/Go1, WidowX