

# XUXIN CHENG

(+1) 510-423-1592 • xuxinc@cs.cmu.edu • chengxuxin.github.io

## EDUCATION / AWARDS

**Carnegie Mellon University**, Pittsburg, PA 08/2021 – 08/2023(Expected)

M.S. in Robotics

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

Visiting student, EECS & ME; GPA: 3.96/4.0

- Selected Courses (all grad level): CS285 Deep Reinforcement Learning; CS194 Computer Vision; EE206 Introduction to Robotics; EE127 Optimization; ME193 Legged Robots; ME 299 Individual Research

**Beijing Institute of Technology**, Beijing, China 09/2016 – 07/2020

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

- National Scholarship (0.2%); DWIN Scholarship (1%); Outstanding Student Scholarship (5%, 5 times)
- Graduation with honor: Outstanding Graduates of Beijing & BIT

## PUBLICATIONS

- **Xuxin Cheng**, Zhongyu Li, Xue Bin Peng, Pieter Abbeel, Sergey Levine, Glen Berseth, Koushil Sreenath. "Learning Precise Foot Placement Skills for Bipedal Robots". In preparation for *IEEE Robotics and Automation Letters (RA-L)*
- Zhongyu Li, **Xuxin Cheng**, Xue Bin Peng, Pieter Abbeel, Sergey Levine, Glen Berseth, Koushil Sreenath. "Reinforcement Learning for Robust Parameterized Locomotion Control of Bipedal Robots". *IEEE International Conference on Robotics and Automation (ICRA)* 2021
- Fei Ye\*, **Xuxin Cheng\***, Pin Wang, Ching-Yao Chan. "Automated Lane Change Strategy using Proximal Policy Optimization-based Deep Reinforcement Learning". *IEEE Intelligent Vehicles Symposium (IV)* 2020
- Tianyu Shi, Pin Wang, **Xuxin Cheng**, Ching-Yao Chan. "Driving Decision and Control for Automated Lane Change based on Deep Reinforcement Learning". *IEEE International Conference on Intelligent Transportation Systems (ITSC)* 2019

### Posters

- Pin Wang, Fei Ye, **Xuxin Cheng**, Ching-Yao Chan. "Lane Change Strategy based on Meta Reinforcement Learning". *Berkeley Artificial Intelligence Research (BAIR) / Berkely Deep Drive (BDD) Workshop* 2019

\* denotes equal contribution

## EXPERIENCE

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

R.A., Advisor: Koushil Sreenath & Sergey Levine Berkeley, CA

- Propose and implement the reinforcement learning-based controller for precise foot placement skills of bipedal robot Cassie, with foot placement information extracted from an on-board RGB camera.
- Propose and implement the approach for training bipedal robot in simulation to perform diverse and robust locomotion skills; Successfully transfer learned policy to the real robot.

**Partners for Advanced Transportation Technology (PATH)**, UC Berkeley 07/2019 - 02/2020

R.A., Advisor: Ching-Yao Chan Berkeley, CA

- Propose and develop the framework for optimizing lane change maneuver in highway environment with deep reinforcement learning. Proposed method performs favorably against baseline approaches.

**PKU Omni Smart Sensing Lab (POSS)**, Peking University 07/2018 - 12/2018

R.A., Advisor: Huijing Zhao Beijing, China

- Process data from RGB and Lidar inputs of autonomous vehicles in field environments. Implement traversable area segmentation using inverse reinforcement learning.

## PROFESSIONAL SERVICE

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### Reviewer

IEEE Robotics and Automation Letters (RA-L) 2021

IEEE Intelligent Vehicles Symposium (IV) 2020

### SKILLS

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

**Softwares&Tools:** MATLAB, ROS, Tensorflow, Pytorch, MuJoCo, PyBullet, Git, L<sup>A</sup>T<sub>E</sub>X