

Jiahui Zhang

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Education

University of Southern California

Master of Science

Major: Electrical Engineering

Los Angeles, CA, US

Jan 2020 - Dec 2021

Beijing University of Technology

Bachelor of Engineering

Major: Electrical Information Engineering in Fan Gongxiu Honors College

Beijing, China

Sept 2015 - Jul 2019

Research Experience

ReWiND: Language-Guided Rewards Teach Robot Policies without New Demonstrations

May 2024 - Present

Advisor: Prof. Erdem Biyik, USC

Los Angeles, CA, US (Remote)

- We proposed ReWiND to train a reward function to finetune a pre-trained language-conditioned policy for unseen tasks.

Cross Domain Imitation Learning through Motion Predictive Control

Jan 2023 - Jul 2023

Mentor: Dr. Haonan Yu, Horizon Robotics Inc.

Cupertino, CA, US (Remote)

- We proposed a method to mimic a behavior in a new environment.

Bootstrap Your Own Skills: Learning to Solve New Tasks with Large Language Model Guidance

Aug 2021 - Jan 2023

Advisor: Prof. Joseph J Lim, USC (Move to KAIST, Korea)

Los Angeles, CA, US

- We proposed BOSS, a method to finetune a pre-trained language-conditioned policy able to accomplish long-horizon tasks.

SPRINT: Scalable Semantic Policy Pretraining via Language Instruction Relabeling

Aug 2021 - Jan 2023

Advisor: Prof. Joseph J Lim, USC (Move to KAIST, Korea)

Los Angeles, CA, US

- We proposed SPRINT, a method to pre-train a language-conditioned policy for long-horizon tasks.

Coarse-to-fine Image Deonsing with Spectrum Decomposition

Jan 2021 - May 2021

Advisor: Prof. C.-C. Jay Kuo, USC

Los Angeles, CA, US

- We proposed a method for image denoising with spectrum decomposition.

Design, Analysis and Experiments of Bionic Hexapod Robot with Multilayer C-shape Legs for Unstructured Terrain

Dec 2016 - Mar 2018

Advisor: Prof. Xiaoqing Zhu, BJUT

Beijing, China

- We designed and assembled a hexapod robot that can walk on unstructured terrain.

Publications & Datasets

1. ReWiND: Language-Guided Rewards Teach Robot Policies without New Demonstrations
Jiahui Zhang*, Yusen Luo*, Abrar Anwar*, Sumedh Sontakke, Joseph J. Lim, Jesse Thomason, Erdem Biyik, Jesse Zhang
In Submission [\[Project\]](#)
2. Bootstrap Your Own Skills: Learning to Solve New Tasks with Large Language Model Guidance
Jesse Zhang, **Jiahui Zhang**, Karl Pertsch, Ziyi Liu, Xiang Ren, Minsuk Chang, Shao-Hua Sun, Joseph J. Lim
Conference on Robot Learning (**CoRL**), 2023, [Oral \(top 6.6%\)](#) [\[Project\]](#) [\[Paper\]](#) [\[Code\]](#) [\[Video\]](#)
3. SPRINT: Scalable Semantic Policy Pretraining via Language Instruction Relabeling
Jesse Zhang, Karl Pertsch, **Jiahui Zhang**, Joseph J Lim
International Conference on Robotics and Automation (**ICRA**), 2024 [\[Project\]](#) [\[Paper\]](#) [\[Code\]](#)
4. CLVR Jaco Play Dataset
Shivin Dass, Jullian Yapeter, Jesse Zhang, **Jiahui Zhang**, Karl Pertsch, Stefanos Nikolaidis, Joseph J. Lim
Part of Open-X Embodiment Dataset [\[Website\]](#)
5. Design, Analysis and Experiments of Bionic Hexapod Robot with Multilayer C-shape Legs for Unstructured Terrain
Xiaoqing Zhu, Dengyu Ran, Chentong Xiang, **Jiahui Zhang**, Ge Li, Zhicheng Chen, Yuwen Fang
World Congress on Intelligent Control and Automation (**WCICA**), 2018