Pu Hua

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https://piao-0429.github.io/

EDUCATION

Bachelor of Engineering in Electronic Engineering, Tsinghua University   Sept. 2020 - Jun. 2024

GPA: 3.91/4.00

Research interest: Deep Reinforcement Learning

PUBLICATION

Guowei Xu*, Ruijie Zheng*, Yongyuan Liang*, Xiyao Wang, Zhecheng Yuan, Tianying Ji, Yu Luo, Xiaoyu Liu, Jiaxin Yuan, **Pu Hua**, Shuzhen Li, Yanjie Ze, Hal Daumé III, Furong Huang, Huazhe Xu *"DrM: Mastering Visual Reinforcement Learning through Dormant Ratio Minimization"*

Accepted by ICLR 2024 (Spotlight)   Jan. 2023

Zhecheng Yuan*, Sizhe Yang*, **Pu Hua**, Can Chang, Kaizhe Hu, Xiaolong Wang, Huazhe Xu *"RL-ViGen: A Reinforcement Learning Benchmark for Visual Generalization"*

Accepted by NeurIPS 2023, Track for Datasets and Benchmarks

Pu Hua, Yubei Chen*, Huazhe Xu* *"Simple Emergent Action Representations from Multi-Task Policy Training"*

Accepted by ICLR 2023   Jan. 2023

SELLECTED RESEARCH

Cross-Embodiment Action Representations   Jul. 2023 - Present

Project leader | Supervised by Prof. Huazhe Xu (IIIS, Tsinghua University)

· Aim to solve cross-embodiment generalization problems, in which a unified policy can be shared among multiple robot embodiments and transferred to an unseen embodiment.

· Pretrain multi-head autoencoders between actions and representations with offline data in a self-supervised manner.

· Build a cross-embodiment latent policy between observation space and action representation space.

RL-ViGen: A Reinforcement Learning Benchmark for Visual Generalization   Dec. 2022 - Jun. 2023

Research Fellow | Supervised by Prof. Huazhe Xu (IIIS, Tsinghua University)

· Proposed a visual RL generalization benchmark with diverse realistic rendering tasks and generalization types;

· Implemented and evaluated various algorithms within a unified framework, enabling a comprehensive analysis of their generalization performance;

Simple Emergent Action Representations from Multi-Task Policy Training   Nov. 2021 - Sept. 2022

Project leader | Supervised by Prof. Huazhe Xu (IIIS, Tsinghua University) & Prof. Yubei Chen (ECE, UC Davis)

· Put forward the idea of leveraging emergent action representations from multi-task learners to better understand motor action space and accomplish task generalization.

· Decoupled the state-related and task-related information of the sensory-action representations and reused them to conduct action planning more efficiently.

· The proposed method is a strong task adapter and also supports task interpolation as well as composition.

AWARDS & HONORS

2023 Excellent Comprehensive Scholarship	Nov. 2023
2022 Scholarship for Academic Excellence	Dec. 2022
2021 Scholarship for Academic Excellence	Dec. 2021

SKILLS

Language proficiency   English (GRE: 331+3.5, CET4: 662, CET6: 604), Chinese (Native)

Computing skills   C/C++, Python, Pytorch, MATLAB