JINXIN LIU

DEEP REINFORCEMENT LEARNING

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EDUCATION

Zhejiang University, Westlake University	2019.09 - 2024.06
Ph.D., Computer Science	Hangzhou, China
 ★ Zhejiang University & Westlake University Joint Ph.D. Program ★ Advisor: Prof. Donglin Wang 	
Chongqing University of Posts and Telecommunications	2015.09 - 2019.06
B.Eng., Communications Engineering	Chongqing, China
★ Cumulative GPA: 3.8/4.0 Rank: 1/42 (for four consecutive years)	

RESEARCH INTERESTS

- ★ Deep Reinforcement Learning (RL): focusing on general and ready-to-be-deployed RL algorithms, *i.e.*, imitation learning, reward-free RL, unsupervised RL (learning skills), and RL in real-world tasks (games).
- ★ Planning and Inference: offline RL, offline-to-online RL, embodied agent, and design from data.
- ★ Distribution Shift: RL dynamics/embodyment adaptation, multi-goal RL, sim2real, and sample-efficient RL.

SELECTED PUBLICATIONS

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[1] Jinxin L , Li H, Yachen K, Zifeng Z, Donglin W, and Huazhe X.	[NeurIPS, 2023]
CEIL: Generalized Contextual Imitation Learning. PDF	
[2] <u>Jinxin L</u> , Hongyin Z, Zifeng Z, Yachen K, Donglin W, and Bin W.	[NeurIPS, 2023]
Design from Policies: Conservative Test-Time Adaptation for Offline Policy Optimization	on. <u>PDF</u>
[3] Jinxin L, Lipeng Z, Li H, and Donglin W.	[CoRL, 2023]
CLUE: Calibrated Latent Guidance for Offline Reinforcement Learning. PDF	
[4] Jinxin L, Hongyin Z, and Donglin W.	[ICLR, 2022]
DARA: Dynamics-Aware Reward Augmentation in Offline Reinforcement Learning. PD	<u>)F</u>
[5] Jinxin L, Donglin W, Qiangxing T, and Zhengyu C.	[AAAI, 2022]
Learn Goal-Conditioned Policy with Intrinsic Motivation for Deep Reinforcement Learn	ning. PDF
[6] Jinxin L, Hao S, Donglin W, Yachen K, and Qiangxing T.	[NeurIPS, 2021]
Unsupervised Domain Adaptation with Dynamics-Aware Rewards in Reinforcement Lea	arning. <u>PDF</u>
[7] Zifeng Z, Kun L, Jinxin L, Donglin W, and Yilang G.	[ICLR, 2023]
Behavior Proximal Policy Optimization. PDF	
[8] Yao L, Jinxin L, Zhentao T, Bin W, Jianye H, and Ping L.	[ICML, 2023]
ChiPFormer: Transferable Chip Placement via Offline Decision Transformer. PDF	
[9] Yachen K, Diyuan S, Jinxin L, Li H, and Donglin W.	[ICML, 2023]
Beyond Reward: Offline Preference-Guided Policy Optimization. PDF	
[10] Qiangxing T, Guanchu W, <u>Jinxin L</u> , Donglin W, and Yachen K.	[IJCAI, 2020]
Independent Skill Transfer for Deep Reinforcement Learning. PDF	
[11] Qiangxing T, <u>Jinxin L</u> , Donglin W, and Ao T.	[CIKM, 2019]
Time Series Prediction with Interpretable Data Reconstruction. PDF	

SELECTED PREPRINTS

[1] <u>Jinxin L</u>, Ziqi Z, Zhenyu W, Zifeng Z, Yachen K, Sibo G, and Donglin W. [Under review] Beyond OOD State Actions: Supported Cross-Domain Offline Reinforcement Learning. <u>PDF</u>

INTERNSHIP EXPERIENCE

★ Research Intern (2022.06 - 2022.10)

Noah's Ark Lab, Huawei

Finished with two papers on [1] chip placement tasks and [2] standard offline reinforcement learning tasks:

- [1] We proposed ChiPFormer that can exploit offline placement designs to learn transferable policies, promote effective finetuning for unseen chip circuits, and *reduce the placement runtime from hours to minutes*. PDF
- [2] We proposed Design fROm Policies that decouples the iterative bi-level offline RL from the offline training phase, forming a non-iterative bi-level paradigm and avoiding the iterative error propagation over two levels. PDF

★ Visiting Student (2018.10 - 2019.05)

Westlake University

Early-stage research training: finished with two papers (1st author) on time series prediction: [PDF] & [PDF].

ACADEMIC SERVICES

★ Talks

- [1] Beyond Design from Data: Design from Policies is All You Need
- Ali Cloud, Alibaba

[2] Diffusion-Guided Diversity for Offline RL

- Noah's Ark Lab, Huawei
- [3] Control as Inference: A General Review[4] Unsupervised Reinforcement Learning for Skill Discovery
- Second Research Institute of CASIC Westlake Robot Learning Symposium
- [5] Hi, Robot: Training a Versatile Robot from Scratch
- Talk to the Future, Westlake University
- [6] Time Series Prediction with Interpretable Data Reconstruction
- Zhejiang University

★ Teaching

[1] Deep Reinforcement Learning

Head TA in Fall 2021 and Spring 2023

★ Conference Reviewer

ICML, ICLR, NeurIPS, IJCAI, AAAI, KDD, and IROS.

Academic Services

RESEARCH PROJECT

★ Government Sponsored Research

[1] NSFC General Program (Deep RL on real quadruped robot)

Grant No. 62176215

[2] National Science and Technology Innovation 2030 - Major Project

Grant No. 2022ZD0208800

[3] Development of the Blind-Guiding Quadruped Robot System

Hangzhou 2022 Asian Games

★ Company Sponsored Research

[1] Machine Learning and Robot Behavioral Learning

Bright Dream Robotics, Guangdong

[2] Quadruped Robot Platform on Farmland Protection

Westlake Uni.-Muyuan Joint Research Inst.

[3] Development of Low Cost Navigation Equipment

Westlake Uni.-Muyuan Joint Research Inst.

Responsible for Output Responsible for RL sample efficiency, domain adaptation, and sim2real issues.

o Real-world robot deployment: Deploying RL algorithms on a robotic arm and a quadruped robot.

SELECTED AWARDS & HONORS

Outstanding Student (<10%)	2022
Su-Wu Scholarship (<5%)	2021
Best Poster Award at WISE 2021 (<5%)	2021
The only Grand Prize at Electronic Design Innovation Challenge (<1%)	2018
Advanced Individuals of Scientific and Technological Innovation (<5%)	2018
Second Prize of National Mobile Internet Application Development Competition (<10%)	
National Scholarship (<5%)	2017
First Prize of China Undergraduate Mathematical Contest in Modeling (Chongqing; <5%)	2017
National Encouragement Scholarship (<10%)	2016