Hai Zhang

✉ zhanghai12138@tongji.edu.cn · ⬡ betray12138 (the same as zhihu)

⚑ PERSONAL STATEMENT

A dedicated, practicing, and capable researcher in reinforcement learning (RL), specifically in model-based RL, offline RL and context-based meta RL, with absorbing more than 100 papers in related fields (see the details in zhihu). A confident and cohesive member in collaborative work, brilliant at communication and organization. A pragmatic and skillful back-end development engineer before diving into RL, with the mastering of C++, PYTHON, Golang, and some common techniques.

🎓 EDUCATION

TONGJI UNIVERSITY, SHANGHAI, CHINA   2022.09 – up to now
MASTER(without examination), COMPUTER SCIENCE AND TECHNOLOGY
with GPA of 85.19/100

TONGJI UNIVERSITY, SHANGHAI, CHINA   2018.09 – 2022.06
BACHELOR, COMPUTER SCIENCE AND TECHNOLOGY
with GPA of 4.76/5.0, general ranking of 8/155

👥 RESEARCH EXPERIENCE

* means co-first author, † means corresponding author

QIZHI INSTITUTE(Tsinghua University IIIS) SHANGHAI, CHINA   2024.05 – up to now
RESEARCH INTERN   supervised by Prof. Yang Gao

ZHEJIANG LAB HANGZHOU, ZHEJIANG, CHINA   2023.07 – 2024.05
RESEARCH INTERN   supervised by Prof. Lanqing Li & Prof. Pheng-Ann Heng

- **Scrutinize What We Ignore: Controlling Task Representation Shift In Context-Based Offline Meta Reinforcement Learning.** *Hai Zhang*, Boyuan Zheng, Anqi Guo, Tianying Ji, Pheng-Ann Heng, Junqiao Zhao†, Lanqing Li†. *Under review in NeurIPS 2024*
- **Towards an Information Theoretic Framework of Context-Based Offline Meta-Reinforcement Learning.** Lanqing Li*, *Hai Zhang**, Xinyu Zhang, Shatong Zhu, Yang Yu, Junqiao Zhao†, and Pheng-Ann Heng. *Under review in NeurIPS 2024*

TIEV LAB SHANGHAI, CHINA   2022.09 – up to now
supervised by Prof. Junqiao Zhao

- **How to Fine-tune the Model: Unified Model Shift and Model Bias Policy Optimization.** *Hai Zhang*, Hang Yu, Junqiao Zhao†, Di Zhang, Chang Huang, Hongtu Zhou, Xiao Zhang, and Chen Ye. *In NeurIPS 2023*
- **Safe Reinforcement Learning with Dead-Ends Avoidance and Recovery.** Xiao Zhang, *Hai Zhang*, Hongtu Zhou, Chang Huang, Di Zhang, Chen Ye†, Junqiao Zhao†. *In IEEE Robotics and Automation Letters 2023 (Present in ICRA 2024)*
- **Focus On What Matters: Separated Models For Visual-Based RL Generalization.** Di Zhang, Bowen Lv, *Hai Zhang*, Feifan Yang, Hongtu Zhou, Chang Huang, Hang Yu, Chen Ye, Junqiao Zhao†, and Changjun Jiang. *Under review in NeurIPS 2024*

⚙ PROJECTS

Distributed Complete Vehicle Cloudization   2022.05 – 2023.01
- Invention Patent (Submitted, Patent Number: 202310899331.2)
- Affiliated with the National Key R&D Program

- Core Technique: distributed framework architecture, k8s deployment

NIO, SHANGHAI, CHINA   2021.10-2022.03

BACKEND DEVELOPMENT ENGINEER

- LIFELONG CYCLE MANAGE SYSTEM (MongoDB replica set, MongoDB atomic operation, Nginx reverse proxy, docker deployment, Redis distributed lock)
- EDGE-SIDE DATA UPLOAD AND DISPLAY (Protobuf, web-socket, TTL index, split-table storage)
- DATA SYNCHRONIZATION SERVICE (Kafka consumer group, full and increment synchronization)
- 5T MAGNITUDE DATA MIGRATION AND BACKUP (MongoDB shared set, shared key setting, index setting, MongoDB cluster construction)

Unknown Environment Exploration and Application Device Based on Deep Reinforcement Learning   2020.05-2021.03

- Innovation and Entrepreneurship Program for SHANGHAI University Students.
- Responsible for accomplishing end-to-end vehicle driving on the CARLA simulator using representation learning combined with reinforcement learning algorithms such as SAC, TD3, and PPO.
- Responsible for training visual models to work with the ROS system to fulfill target detection.

⚓ COMPETITIONS

RLChina Intelligent Agent Challenge Nonin Spring Season Curling Challenge

- Second Place in finals, Sixth Place in total scores
- Responsible for optimizing PPO and rule-based intelligence to complete curling strikes in a POMDP environment

WAIC: Meta-verse Lights Up Autonomous Driving, AI Simulation Driving Competition

- Second Place (Unique), won 40 thousand RMB
- Responsible for perceptual information processing and code implementation of the decision state machine

Intel Cup National College Students Embedded System Invitational Competition

- National Second Prize (Leader)
- All Sight Security Eye - Intelligent Suspect Detection System
- Responsible for the overall architecture of the project implementation as well as the full-view image stitching

ℹ OTHERS

- Good at badminton, hiking and photography; enthusiastic in travelling
- Outstanding Undergraduate Thesis
- Scholarship for outstanding students for three consecutive years