Dailin Hu

Data Scientist

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PUBLICATIONS

StaTeS-SQL: Soft Q Learning with State-Dependent Temperature Scheduling. Master thesis, 2022.
Hu D, Abbeel P, Fox R.

Reducing Variance in Temporal-Difference Value Estimation via Ensemble of Deep Networks. International Conference on Machine Learning, 2022.
Liang L, Xu Y, McAleer S, Hu D, Ihler A, Abbeel P, Fox R.

Count-Based Temperature Scheduling for Maximum Entropy Reinforcement Learning. NeurIPS workshop on Deep Reinforcement Learning, 2021.
Hu D, Abbeel P, Fox R.

Target Entropy Annealing for Discrete Soft Actor-Critic. NeurIPS workshop on Deep Reinforcement Learning, 2021.
Xu Y, Hu D, Liang L, McAleer S, Abbeel P, Fox R.

Temporal-Difference Value Estimation via Uncertainty-Guided Soft Updates. NeurIPS workshop on Deep Reinforcement Learning, 2021.
Liang L, Xu Y, McAleer S, Hu D, Ihler A, Abbeel P, Fox R.

SKILLS

Programming languages
C\C++ • Python • C#
Tools & Utilities
PyTorch • JAX
• Git • Unity • Arduino • Raspberry Pi

EDUCATION

University of California, Irvine
Computer Science, M.S. | 2020-2022

University of California, Irvine
Electrical Engineering and Computer Science Exchange Student | 2019-2020

Southeast University
Computer Science, B.S. | 2016-2020

EXPERIENCE

MICROSOFT GAMING, BLIZZARD
Data Scientist
2022 - Present | Irvine, CA

- Led development for a game-agnostic reinforcement-learning (RL) internal pipeline with JAX.
- Supported and maintained Hearthstone AI training pipeline.
- Worked across multiple franchises to create smart bot behavior. Led research and development for RL-based shooter bot navigation. Worked on smart multi-agent collaboration and adversarial behavior for in-game bots, supported by RL and LLM.

MOTIONAL DRIVERLESS TECHNOLOGY
Motion Planning Research Scientist (Intern)
2022 | Boston, MA

- Compared the self-driving behavior demonstrated by different state-of-the-art RL methods.
- Contributed to nu-Plan, the world's first closed-loop, ML-based planning benchmark for autonomous driving

HPI RESEARCH CENTER IN MACHINE LEARNING AND DATA SCIENCE
Research Fellow
2021-2022 | University of California, Irvine

- Built reinforcement learning and imitation learning based autonomous driving framework with the Duckietown self-driving project.
- Presented several methods for reducing the bias in training in Maximum Entropy Reinforcement learning. Demonstrating state-of-the-art performance on Atari 2600 benchmarks.

INTELLIGENT DYNAMICS LAB
Research Assistant
2019-2020 | University of California, Irvine

- Proposed a method such that it combines the advantage of both RL and Imitation Learning (IL), outperforming both RL and IL with limited data.
- Awarded UROP fellowship.

SOUTHEAST UNIVERSITY
Undergrad Research Assistant
2018-2019 | China

- Built an online AI gaming platform for internal testing. Used Vue.js for front-end development and Django for backend development.
- Applied AlphaGo Zero's method to the game of connect-5, implemented with C++ & Python. Core algorithms include Monte Carlo Tree Search, Alpha-Beta Pruning and Convolutional Neural Networks. Awarded 3rd prize in the Chinese University Computer Games Championship National Final.
- Researched possibilities of combining Hierarchial RL with multi-agent RL methods.