Liangyawei Kuang

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Introduction

I am a postgraduate researcher at **the Hong Kong University of Science and Technology (HKUST)**. My research goal is to develop learning algorithms and techniques that could endow machines and systems with greater autonomy and intelligence to acquire the skills for executing complex tasks. I am interested in the intersection of reinforcement learning, decision-theoretic planning, and multi-agent systems. Currently, I focus on solving Multi-Agent Reinforcement Learning problems under scalability and reliability consideration & diving theoretical and algorithmic foundation of Reinforcement Learning.

Research Experience

Off-policy Multi-Agent Reinforcement Learning Apr. 2021 - present
Advisor: Prof. Fangzhen Lin

Heterogeneous Multi-Agent Systems Dec. 2021 - present
Advisor: Prof. Fangzhen Lin

Education

HKUST, Hong Kong, China Aug. 2021 - present
Master of Philosophy in Individualized Interdisciplinary Program (Robotics and Autonomous Systems)
Advisor: Prof. Fangzhen Lin

HKUST (Guangzhou), Guangzhou, China Sept. 2022 - Dec. 2022
Cross Campus Virtual Exchange (Remote)

Northeastern University, MA, U.S.A. Jul. 2020 - Jun. 2021
Thesis-based Master of Computer Engineering in Computer Vision, Machine Learning and Algorithms (degree discontinued)

University of California, Irvine, CA, U.S.A. Aug. 2019 - Jun. 2020
Final year visiting in Electrical Engineering & Computer Science Department

Hong Kong Polytechnic University, Hong Kong, China Jan. 2019 - Jun. 2019
One-semester exchange in Mechanical Engineering Department

Harbin Institute of Technology, Harbin, China Aug. 2016 - Jun. 2020
Bachelor of Engineering in Mechatronics Engineering

Teaching

HKUST, Lecturer Spring 2022
Multi-Robot Systems
Course link: https://github.com/klyw1998/Multi-Robot-Systems

Northeastern University, Teaching Assistant Fall 2020
EECS 7311: Two Dimensional Signal and Image Processing

Skills

Programming Python, C/C++, MATLAB, R, SQL, Java
Libraries NumPy, Matplotlib, Scikit-Learn,

OpenAI Gym, PyTorch, TensorFlow2

Languages Mandarin, Classical Chinese, English (IELTS: 7), Beginner on Latin

Others LaTeX, Linux, ROS, Docker, Vim, Microsoft Office

Invited Talks

Cooperative Multi-Agent Reinforcement Learning 2022
Seminar in Robotics and Autonomous Systems Thrust,
System Hub, HKUST(Guangzhou)

Projects

On-Campus Food Delivery System via Multi-Agent Pathfinding, HKUST 2021
Project page: https://github.com/klyw1998/Multi-Agent-Pathfinding

Home Credit Default Risk competition at Kaggle, HKUST 2022
Ranked top **14%** (Bronze Medal level) based on Machine Learning techniques.
This project is carried out by only two participants in less than one week's work!
Project page: https://github.com/klyw1998/Statistical-Machine-Learning

Honours

Postgraduate Studentship, HKUST 2021 - 2023
Meritorious Winner (top **6%** in 2019), Mathematical Contest in Modeling 2019
Outstanding Student Leader, Harbin Institute of Technology 2017 & 2018
Second Class Scholarship, Harbin Institute of Technology 2017 & 2018
SMC Scholarship, Harbin Institute of Technology 2017