Qingyuan Wu

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mail homepage linkedin github

Research Interests

Reinforcement Learning, Machine Learning

Education

University of Southampton **Sep. 2024 – Sep. 2026 (Expected)**
Doctorate of Philosophy in Computer Science *Southampton, UK*

University of Liverpool **Sep. 2023 – Sep. 2024**
Doctorate of Philosophy in Computer Science (transfer to Southampton) *Liverpool, UK*

Nanjing University of Aeronautics and Astronautics **Sep. 2019 – April 2022**
Master of Engineering in Computer Science *Nanjing, CN*

Nanjing University of Aeronautics and Astronautics **Sep. 2015 – June 2019**
Bachelor of Science in Mathematics *Nanjing, CN*

Work Experience

Parametrix.AI Technology **April 2022 – Sep. 2023**
Reinforcement Learning and Gaming AI Researcher, full time *ShenZhen, CN*

- Working on the most challenging and complicated gaming scenarios(e.g., FPS, TPS).
- Developed various and lively gaming AI (e.g., human-like, highly-skilled).

Publications

Conference

- **Qingyuan Wu**, Simon Sinong Zhan, Yixuan Wang, Yuhui Wang, Chung-Wei Lin, Chen Lv, Qi Zhu, Chao Huang. *Variational Delayed Policy Optimization.* Conference on Neural Information Processing Systems 2024 (NeurIPS 2024).
- **Qingyuan Wu**, Simon Sinong Zhan, Yixuan Wang, Yuhui Wang, Chung-Wei Lin, Chen Lv, Qi Zhu, Jürgen Schmidhuber, Chao Huang. *Boosting Reinforcement Learning with Strongly Delayed Feedback Through Auxiliary Short Delays.* International Conference on Machine Learning 2024 (ICML 2024).
- Yuhui Wang, Weida Li, Francesco Faccio,**Qingyuan Wu**, Jürgen Schmidhuber. *Highway Value Iteration Networks.* International Conference on Machine Learning 2024 (ICML 2024).
- Simon Sinong Zhan, Yixuan Wang, **Qingyuan Wu**, Ruochen Jiao, Chao Huang, Qi Zhu. *State-wise Safe Reinforcement Learning With Pixel Observations.* Learning for Dynamics & Control Conference 2024 (L4DC 2024).

Journal

- Dan Zhu, Xiaohong Chen, **Qingyuan Wu**, Shunming Li. *Subspace Clustering Induced by Adaptive Graph Learning.* Computer Engineering and Applications, 56(21):8, 2019.

Thesis

- [Master thesis] *Research on Efficient Exploration and Learning Method Based on Rollout in Complex Scenarios.* Advised by Prof. Xiaoyang Tan

Preprint

- Simon Sinong Zhan, **Qingyuan Wu**, Zhian Ruan, Frank Yang, Philip Wang, Yixuan Wang, Ruochen Jiao, Chao Huang, Qi Zhu. *Inverse Delayed Reinforcement Learning.* arxiv: 2412.02931.
- Simon Sinong Zhan, **Qingyuan Wu**, Philip Wang, Yixuan Wang, Ruochen Jiao, Chao Huang, Qi Zhu. *Model-based Reward Shaping for Adversial Inverse Reinforcement Learning in Stochastic Environments.* arxiv: 2410.03847.
- Yuhui Wang, **Qingyuan Wu**, Weida Li, Dylan R. Ashley, Francesco Faccio, Chao Huang, Jürgen Schmidhuber. *Scaling Value Iteration Networks to 5000 Layers for Extreme Long-Term Planning.* arxiv: 2406.08404v1.

- Yuhui Wang, Miroslav Strupl, Francesco Faccio, **Qingyuan Wu**, Haozhe Liu, Michał Grudzień, Xiaoyang Tan, Jürgen Schmidhuber. *Highway Reinforcement Learning.* arxiv: 2405.18289.
- Jiayu Yao, **Qingyuan Wu**, Quan Feng, Songcan Chen. *Learning downstream task by selectively capturing complementary knowledge from multiple self-supervisedly learning pretexts.* arxiv: 2204.05248, 2022.
- **Qingyuan Wu**, Yuhui Wang. *Expected-Max Ensembled Q-learning with Temporally-Varying Exploration.* 2021.
- Yuhui Wang, **Qingyuan Wu**, Pengcheng He, Xiaoyang Tan. *A Novel Greedy-Step Bellman Optimality Equation for Efficient Value Propagation.* arxiv: 2102.11717, 2021.
- **Qingyuan Wu**, Xiaoyang Tan. *Graph-Constrained Monte Carlo Tree Search for Low Variance Bus Driver Scheduling.* 2021.

Technical Skills

Programming Skills: Python, C++, Pytorch, Tensorflow