

# HAOZHE MA

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🔗 [github.com/mahaozhe](https://github.com/mahaozhe)

## 🎓 EDUCATION

National University of Singapore

01/2022 - Now

Ph.D. student major in **Computer Science**

Advised by Prof. Tze-Yun Leong

National University of Singapore

08/2020 - 12/2021

Master of **Computing**

GPA: 4.8/5.0

Advised by Prof. Tze-Yun Leong

Xi'an Jiaotong University

08/2016 - 06/2020

Bachelor of **Computer Science (Qian Xuesen Top Class)**

GPA: 3.8/4.3 (top 6%)

## 🔍 RESEARCH INTERESTS

Reinforcement Learning, Robotics, Sequential Decision Making, Human-AI Collaboration

## 📖 PUBLICATIONS

- [1] **Haozhe Ma**, Kuankuan Sima, Thanh Vinh Vo, Di Fu, and Tze-Yun Leong. 2024. Reward Shaping for Reinforcement Learning with An Assistant Reward Agent. *In Proceedings of the 41st International Conference on Machine Learning*, PMLR, 33925–33939. [[Paper](#)][[PDF](#)][[Poster](#)][[Codes](#)][[Presentation](#)]
- [2] **Haozhe Ma**, Thanh Vinh Vo, and Tze-Yun Leong. 2024. Mixed-Initiative Bayesian Sub-Goal Optimization in Hierarchical Reinforcement Learning. *In Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems*, 1328–1336. [[Paper](#)][[PDF](#)][[Poster](#)][[Slides](#)]
- [3] **Haozhe Ma**, Thanh Vinh Vo, and Tze-Yun Leong. 2023. Hierarchical Reinforcement Learning with Human-AI Collaborative Sub-Goals Optimization. *In Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems*, 2310–2312. [[Paper](#)][[PDF](#)][[Poster](#)]
- [4] **Haozhe Ma**, Thanh Vinh Vo, and Tze-Yun Leong. 2023. Human-AI Collaborative Sub-Goal Optimization in Hierarchical Reinforcement Learning. *In Proceedings of the AAAI Symposium Series*, 86–89. [[Paper](#)][[PDF](#)][[Slides](#)]
- [5] **Haozhe Ma**, Zhengding Luo, Thanh Vinh Vo, Kuankuan Sima, Tze-Yun Leong. Highly Efficient Self-Adaptive Reward Shaping for Reinforcement Learning. (Under review of NeurIPS 2024).
- [6] **Haozhe Ma**, Zhengding Luo, Kuankuan Sima, Thanh Vinh Vo, Tze-Yun Leong. Knowledge Sharing and Transfer via Centralized Reward Agent for Multi-Task Reinforcement Learning. (Under review of AAAI 2025).
- [7] **Haozhe Ma\***, Zhengding Luo\*, Dongyuan Shi, Woon-Seng Gan. GFANC-RL: Reinforcement Learning-based Generative Fixed-filter Active Noise Control. (Under review of Neural Networks Journal). [[Paper](#)]
- [8] Di Fu, Thanh Vinh Vo, **Haozhe Ma**, Tze-Yun Leong. 2024. Decoupled Prompt-Adapter Tuning for Continual Activity Recognition. *In Proceedings of the Conference on Lifelong Learning Agents*, PMLR. [[Paper](#)][[PDF](#)]

## 🎓 ACADEMIC PROJECTS

- **Project Participant** of Academic Research Grant from the Ministry of Education in Singapore, No. MOE-T2EP20121-0015. *MixREADY: A unifying framework for Mixed-initiative, REsponsible, DynAmic Decision making under uncertainty*.
- **Project Participant** of National Research Foundation Singapore and DSO National Laboratories under the AI Singapore Programme No. AISG2-RP-2020-016. *The “Other Me”: Human-Centered AI Assistance In Situ*.

## THESIS

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- Hierarchical Reinforcement Learning in StarCraft II with Human Expertise Integration 12/2021  
Master's thesis, advised by Prof. Tze-Yun Leong from the National University of Singapore.
- A Dynamic Decision Language for Adaptive Cognitive Robot Development 06/2020  
Undergraduate thesis, jointly advised by Prof. Tze-Yun Leong from the National University of Singapore and Prof. Jun Liu from Xi'an Jiaotong University.

## AWARDS

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- International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2024) Scholarship
- Research Scholarship from the Ministry of Education in Singapore
- Xi'an Jiaotong University Outstanding Student Scholarship
- Xi'an Jiaotong University SiYuan Student Scholarship
- H Prize in the American Mathematical Modeling Competition

## OPEN-SOURCE PROJECTS

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- [ICML 2024] Reward Shaping for Reinforcement Learning with an Assistant Reward Agent [\[GitHub Link\]](#)
- Efficient Reinforcement Learning Algorithms and Environments by PyTorch [\[GitHub Link\]](#)
- Flat Reinforcement Learning Algorithms on StarCraft II Mini-Games [\[GitHub Link\]](#)
- Tutorial and Document: How to Use StarCraft II as Learning Environment [\[GitHub Link\]](#)
- Auto Text Recognition and Translation by Pasting Screenshots [\[GitHub Link\]](#)

## VISITING AND INTERNSHIP

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- Interned in a research project on causal inference as an intern at Roche Singapore. 01/2023 – 07/2023
- National University of Singapore NGNE project visiting exchange. 12/2019 – 06/2020
- National University of Singapore School of Computing summer workshop. 06/2019 – 08/2019
- Hong Kong Polytechnic University summer visiting exchange. 06/2018 – 08/2028
- Interned in Xi'an TangHua Environment Co., Ltd. 06/2017 – 09/2017

## DUTIES AT SCHOOL

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- Member of the Artificial Intelligence Lab. Seminar at the National University of Singapore. 12/2023 – Now
- Teaching Assistant of the undergraduate course *Foundations of Artificial Intelligence*. 01/2023 – 05/2024
- Teaching Assistant for the graduate course *AI Planning and Decision Making*. 01/2022 – 12/2022
- Minister of *E-Eyes*, the largest internet technology club at Xi'an Jiaotong University. 09/2017 – 07/2019