Yang Li 李阳

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Research Statement

As a Ph.D. candidate in Computer Science, my research centers on the areas of human-AI/robot collaboration, multi-agent learning, and AI applications. I am driven by a passion for harnessing interdisciplinary knowledge, such as AI, game theory, and cognitive theory, to spark innovation in human-robot collaboration, with the ultimate goal of improving the quality of human life.

Education

University of Manchester — UK
PhD student in Computer Science — *Supervised by Wei Pan; Sep 2022 –*

University of Chinese Academy of Sciences — China
M.Sc. in Information and Communication Engineering — *Supervised by Jun Wang, Yang Yang; Sep 2019 – Jun 2022*

Dalian University of Technology — China
B.Sc. in Digital Media Technology — *Sep 2015 – Jun 2019*

Internship & TA

Teach Assistant

- COMP61011 Foundations of Machine Learning 2023/2024
- COMP26120 Algorithms and Data Structures 2022-23 Full Year
- COMP24112 Machine Learning 2022-23 2nd Semester

Shanghai Institute of Digital Brain — Shanghai, China
Algorithm Intern — *Oct 2021 – May 2022*

Huawei — HangZhou, China
Algorithm Intern — *Apr 2021 – Oct 2021*

Awards

China Scholarship Council (CSC) scholarships
China National Scholarship for Graduate Students 2021
Merit Student of the University of Chinese Academy of Sciences 2022
Student Grant of ICC 2021 by COMSOC

Publications

Journal Paper

- **Li, Yang**, Shao Zhang, Jichen Sun, Wenhao Zhang, Yali Du, Ying Wen, Xinbing Wang, and Wei Pan. "Tackling cooperative incompatibility for zero-shot human-ai coordination." Journal of Artificial Intelligence Research 80 (2024): 1139-1185. **(CCF-B, JCR Q2, IF=4.5)**
- **Li, Yang**, Fanglei Sun, Jingchen Hu, Chang Liu, Fan Wu, Kai Li, Ying Wen et al. "Self-Supervised MAFENN for Classifying Low-labeled Distorted Images over Mobile Fading Channels." IEEE Transactions on Mobile Computing (2023). **(CCF-A, JCR Q1, IF=7.7)**
- **Li, Yang**, Dengyu Zhang, Junfan Chen, Ying Wen, Qingrui Zhang, Shaoshuai Mou, Wei Pan. HOLA-Drone: Hypergraphic Open-ended Learning for Zero-Shot Multi-Drone Cooperative Pursuit. Under review.
- **Li, Yang**, Kun Xiong, Yingping Zhang, Jiangcheng Zhu, Stephen Marcus McAleer, Wei Pan, Jun Wang, Zonghong Dai, and Yaodong Yang. "JiangJun: Mastering Xiangqi by Tackling Non-Transitivity in Two-Player Zero-Sum Games". Transactions on Machine Learning Research, 2023. https://openreview.net/forum?id=MMsyqXIJuk.
- Liu, Yuwei, **Yang Li**, Yuqiang Cheng, Wei Pan, Jianjun Wu. "IM-TD3: A Reinforcement Learning Approach for Liquid Rocket Engine Start-Up Optimization". Accepted by IEEE Transactions on Aerospace and Electronic Systems. **(JCR Q1, IF=5.1)**

- Sun, Fanglei, **Yang Li**, Ying Wen, Jingchen Hu, Jun Wang, Yang Yang, and Kai Li. "Multi-Agent Feedback Enabled Neural Networks for Intelligent Communications." IEEE Transactions on Wireless Communications 21, no. 8 (2022): 6167-6179. **(CCF-B, JCR Q1, IF=8.9)**

Conference Paper

- **Li, Yang**, Wenhao Zhang, Jianhong Wang, Shao Zhang, Yali Du, Ying Wen, and Wei Pan. "Aligning Individual and Collective Objectives in Multi-Agent Cooperation."
- **Li, Yang**, Shao Zhang, Jichen Sun, Yali Du, Ying Wen, Xinbing Wang, and Wei Pan. "Cooperative open-ended learning framework for zero-shot coordination." In International Conference on Machine Learning, pp. 20470-20484. PMLR, 2023. **(ICML,CCF-A)**
- **Li, Yang**, Cheng Yu, Guangzhi Sun, Hua Jiang, Fanglei Sun, Weiqin Zu, Ying Wen, Yang Yang, and Jun Wang. "Cross-Utterance Conditioned VAE for Non-Autoregressive Text-to-Speech." In Proceedings of the 60th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers), pp. 391-400. 2022. **(ACL, CCF-A)**
- Tenglong Liu, **Yang Li**, Yixing Lan, Hao Gao, Wei Pan, and Xin Xu. "Adaptive Advantage-Guided Policy Regularization for Offline Reinforcement Learning." Accepted by ICML 2024. **(ICML, CCF-A)**
- Jianhong Wang, **Yang Li**, Yuan Zhang, Wei Pan, and Samuel Kaski. "Open Ad Hoc Teamwork with Cooperative Game Theory." Accepted by ICML 2024. **(ICML, CCF-A)**
- Cheng Yu, **Yang Li**, Weiqin Zu, Fanglei Sun, Zheng Tian, and Jun Wang. "Cross-utterance Conditioned Coherent Speech Editing." In Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH, vol. 2023, pp. 2108-2112. ISCA, 2023.
- Zhang, Bin, Hangyu Mao, Jingqing Ruan, Ying Wen, **Yang Li**, Shao Zhang, Zhiwei Xu et al. "Controlling large language model-based agents for large-scale decision-making: An actor-critic approach." arXiv preprint arXiv:2311.13884 (2023).
- David Henry Mguni, Taher Jafferjee, Jianhong Wang, Nicolas Perez-Nieves, Oliver Slumbers, Feifei Tong, **Yang Li**, Jiangcheng Zhu, Yaodong Yang, and Jun Wang. "LIGS: Learnable Intrinsic-Reward Generation Selection for Multi-Agent Learning." In International Conference on Learning Representations (ICLR). 2021.**(ICLR, CCF-A)**
- **Yang Li**, Fanglei Sun, Wenbin Song, Ying Wen, Kai Li, Jun Wang and Yang Yang. "Retrospective Thinking based Multi-Agent System for Wireless Video Transmissions." ICC 2021 - IEEE International Conference on Communications (2021): 1-6.
- **Yang Li**, Fanglei Sun, Weiqin Zu, Wenbin Song, Ying Wen, Jun Wang, Yang Yang, Kai Li and Liantao Wu. "MAFENN: Multi-Agent Feedback Enabled Neural Network for Wireless Channel Equalization." 2021 IEEE Global Communications Conference (GLOBECOM) (2021): 1-6.
- Xiangyue Duan, Xinchen Ye, **Yang Li** and Haojie Li. "High Quality Depth Estimation from Monocular Images Based on Depth Prediction and Enhancement Sub-Networks." 2018 IEEE International Conference on Multimedia and Expo (ICME) (2018): 1-6. **(ICME, CCF-B)**

Patent

- Yu, C., **Li, Y.**, Zu, W., Sun, F., Tian, Z., Wang, J. Cross-sentence conditionally coherent voice editing method, system, and device. (CN Patent Pending, No. CN116189653A)
- **Li, Y.**, Yu, C., Sun, F., Tian, Z., Wang, J., Zhang, C., Sun, X., Jiang, H. Cross-sentence speech synthesis method, system, and device based on variational autoencoder. (CN Patent Pending, No. CN114566141A)
- **Li, Y.**, Sun, F., Yang, C., Wang, J., Wen, Y. Multi-Agent Feedback Network Model, Device, and Storage Medium based on Retrospective Thinking. (CN Patent Pending, No.CN113011582A)
- X. Ye, H. Li, **Y. Li**, X. Duan, a high-quality depth estimation method based on depth prediction and enhanced sub-network. (CN Patent Granted, No. CN108510535B)

Service

Reviewer for AAAI 2025, NeurIPS 2024, ICML2024, AAMAS 2023, DAI 2023, Journal of AI Research, IEEE INTERNET OF THINGS JOURNAL, IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, e.t.c.

Served as a volunteer for the ICML conference in Hawaii, July 23-29, 2023.