

ZHUORAN LI

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EDUCATION

Tsinghua University B.S in Department of Electronic Engineering

August 2016 - July 2020

Tsinghua University B.S in School of Economics and Management (Second Major)

August 2017 - July 2020

Tsinghua University Ph.D in Institute for Interdisciplinary Information Sciences

August 2020 - present

Ph.D. Advisor: Professor Longbo Huang

ACADEMIC

Research Topic

- Deep reinforcement learning (Multi-agent RL, Offline RL, Diffusion Policy).
- Generative models, including diffusion models, flow models and large language models (RLHF, Post-training, AIGC).
- Theory including optimization theory, reinforcement learning theory, and distributed optimization.
- Network Optimization, i.e., network scheduling, network planning.

Representative Papers

- Z Li, X Wang, H Zhong, L Huang. OM2P: Offline Multi-Agent Mean-Flow Policy[C]. AAMAS, 2026.
- Hu R, Zhang Y, Li Z, Huang L. Beyond Squared Error: Exploring Loss Design for Enhanced Training of Generative Flow Networks[C]. ICLR, 2025. (Spotlight, 5.1% of the submitted paper)
- P Hu, S Li, Z Li, L Pan, L Huang. Value-Based Deep Multi-Agent Reinforcement Learning with Dynamic Sparse Training[C]. NeurIPS, 2024.
- Liu Q, Li Z, Fang Z. Smoothed Online Decision Making in Communication: Algorithms and Applications[J]. IEEE Transactions on Networking, 2024.
- Z Li, X Wang, L Pan, et al. Network topology optimization via deep reinforcement learning[J]. IEEE Transactions on Communications, 2023.

Accepted Papers

- Z Li, X Wang, H Zhong, L Huang. OM2P: Offline Multi-Agent Mean-Flow Policy[C]. AAMAS, 2026.
- X Wang[†], Z Li[†], L Huang. Beyond Static Populations: Efficient Delay-Constrained Scheduling for Dynamic Users via Deep Reinforcement Learning. MobiHoc, 2025. ([†] means Co-first authors)
- Hu R, Zhang Y, Li Z, Huang L. Beyond Squared Error: Exploring Loss Design for Enhanced Training of Generative Flow Networks[C]. ICLR, 2025. (Spotlight, 5.1% of the submitted paper)

- Zhong H, Wang X, Li Z, Huang L. Offline-to-Online Multi-Agent Reinforcement Learning with Offline Value Function Memory and Sequential Exploration[C]. AAMAS, 2025.
- Liu Q, Li Z, Fang Z. Smoothed Online Decision Making in Communication: Algorithms and Applications[J]. IEEE Transactions on Networking, 2024.
- P Hu, S Li, Z Li, L Pan, L Huang. Value-Based Deep Multi-Agent Reinforcement Learning with Dynamic Sparse Training[C]. NeurIPS, 2024.
- Z Li, P Hu, L Huang. Offline Learning-based Multi-User Delay-Constrained Scheduling[C]. 2024 IEEE 21st International Conference on Mobile Ad-Hoc and Smart Systems (MASS).
- Z Li, X Wang, L Pan, et al. Network topology optimization via deep reinforcement learning[J]. IEEE Transactions on Communications, 2023.
- Liu Q, Li Z, Fang Z. Online convex optimization with switching costs: Algorithms and performance[C]. 2022 20th International Symposium on Modeling and Optimization in Mobile, Ad hoc, and Wireless Networks (WiOpt). IEEE, 2022: 1-8.

Submitting Papers

- H Zhong, Z Li, X Wang, L Huang. Reparameterization Flow Policy Optimization.
- Z Li, H Zhong, X Wang, Q Xia, L Zhang, L Huang. Diffusing to Coordinate: Efficient Online Multi-Agent Diffusion Policies.
- R Chen, Y Chen, Z Li, L Huang. PowerFlow: Unlocking the Dual Nature of LLMs via Principled Distribution Matching.
- X Wang, Z Li, Y Lin, H Zhong, L Huang. From Solo to Symphony: Orchestrating Multi-Agent Collaboration with Single-Agent Demos.
- H Zhong, X Wang, Z Li, L Huang. Reparameterization Proximal Policy Optimization[J]. arXiv preprint arXiv:2508.06214, 2025.
- R Chen, X Wang, R Hu, Z Li, L Hang. Proxy-Free GFlowNets[J]. arXiv preprint arXiv:2505.20110, 2025.
- X Wang[†], Z Li[†], H Zhong, L Huang. Few is More: Task-Efficient Skill-Discovery for Multi-Task Offline Multi-Agent Reinforcement Learning[J]. arXiv preprint arXiv:2502.08985, 2025. ([†] means Co-first authors)
- Z Li, R Chen, H Zhong, L Huang. Offline Critic-Guided Diffusion Policy for Multi-User Delay-Constrained Scheduling[J]. arXiv preprint arXiv:2501.12942, 2025.
- Z Li, L Pan, J Huang, L Huang. Beyond Conservatism: Diffusion Policies in Offline Multi-agent Reinforcement Learning[J]. arXiv preprint arXiv:2307.01472, 2023.

Unsupervised monocular depth estimation

Jul.2019 - Sep.2019

Summer Intern in Megvii

- Real-time relative depth estimation in the paper “Digging into Self-Supervised Monocular Depth Prediction”.

Certified robustness radius analysis

Nov.2019 - Jun.2020

Bachelor’s thesis

- Theoretical analysis about the influence of certified robustness radius in adversarial learning.

Distributed online convex optimization via projection-free algorithms in time-varying network

Feb.2021 - Feb.2022

- Utilize approximate projection method in distributed environment to achieve a sublinear static regret and dynamic regret.

Low Precision Multi-agent Reinforcement Learning

May.2022 - Sep.2022

Offline Reinforcement Learning for Human Feedback in Large Language Models

May.2023 - Sep.2024

Consistency Policy in Offline Multi-agent Reinforcement Learning

Jan.2024 - Mar.2024

Improved Techniques in Sketch Graph Neural Networks

Jan.2024 - Mar.2024

SERVICE

Conference Reviewer:

NeurIPS 2024, 2025

CVPR 2026

ECCV 2026

ICLR 2024, 2025, 2026

ICML 2025, 2026

AAAI 2025

AISTATS 2022

AAMAS 2023

MM 2025, 2026 (including DB track)

KDD AI4Sciences Track, 2026

ACL ARR, 2025 May, 2026 January

Journal Reviewer

Pattern Recognition

Teaching Assistant:

2020-2021 Autumn Semester: Calculus (Undergraduate)

2020-2021 Spring Semester: Calculus (Undergraduate)

2021-2022 Spring Semester: Mathematics for Artificial Intelligence (Undergraduate, Instructor: Andrew Chi-Chih Yao)

2022-2023 Summer Semester: Algebra and Computation (Undergraduate)

2023-2024 Spring Semester: Stochastic Network Optimization (Graduate)

Other Activities:

2020-2025 Student Supervisor: IIIS, Yao Class, Tsinghua University

2022-2023 Vice President of Graduate Union: IIIS, Tsinghua University

2019-2020 Vice President of SAST EE: Electronic Engineering, Tsinghua University

HONORS AND AWARDS

Scholarship for National Encouragement, 2018,2019;

Scholarship for Outstanding Students, 2017;

Scholarship for Outstanding Students in Technological Innovation, 2018;

Scholarship for Outstanding Students in Social Work, 2018,2019,2021,2022;

Scholarship for Outstanding Students in Second-level, 2023,2024,2025;

Outstanding Prize (Highest award) in The Mathematics Contest in Modeling (MCM/ICM), 2018.

Outstanding Communist Youth League Member, Tsinghua University, 2022;

Outstanding Student Cadre, Tsinghua University, 2023.

Outstanding Undergraduate Counselor, Jiangnanxiang Award, Tsinghua University, 2025.

SKILLS

Programming tools: Python, C++, Matlab