

# ZHUORAN LI

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## EDUCATION

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**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

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### Research Topic

- Deep Reinforcement Learning and its applications in AIGC (AI generated contents, including diffusion model and large language model).
- Theory including Optimization theory, Reinforcement Learning theory, and Distributed Optimization.
- Network Optimization.

### Accepted Papers

- Z Li, X Wang, L Pan, et al. Network topology optimization via deep reinforcement learning[J]. IEEE Transactions on Communications, 2023.
- 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).
- 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.
- 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.
- 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.
- 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)

### Submitting Papers

- 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.

- 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.
- X Wang<sup>†</sup>, Z Li<sup>†</sup>, H Zhong, L Huang. Few is More: Task-Efficient Skill-Discovery for Multi-Task Offline Multi-Agent Reinforcement Learning. (<sup>†</sup> means Co-first authors)

## INTERNSHIP AND OTHER PROJECTS

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### 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

*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

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### Reviewer:

2022 AISTATS

2023 AAMAS

2024 NeurIPS

2025 ICML, ACM Multimedia

### 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

**ACHIEVEMENTS**

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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;

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.

**SKILLS**

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Programming tools: Python, C++, Matlab