

# Zhiqiang He

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<https://tinyzqh.github.io/>

## EDUCATION

### Northeastern University (NEU)

MS in Control Science and Engineering, GPA 3.29/4

Location, Shengyang, China

Sep 2019 - Jun 2022

### East China Jiaotong University (ECJTU)

BS in Automation, GPA 3.42/4

Location, Nanchang, China

Sep 2015 - Jun 2019

## RESEARCH EXPERIENCE

### NEU / Institute of Deep Learning and Advanced Intelligent Decision-Making

Reinforcement Learning Algorithm Development - Team Leader

Sep 2020 - Jun 2021

- Conducted research and integrated model-based reinforcement learning algorithms into projects, including designing and implementing experimental setups.
- Developed and maintained codebases, analyzed experimental data, and optimized algorithm performance based on experimental outcomes.
- Supervised and guided students in their research projects, ensuring quality and progress.

### Jiangxi Province Advanced Control and Key Optimization Laboratory

Reinforcement Learning Algorithm Application - Team Leader

Sep 2016 - Jun 2019

- Analyzed controlled objects and established accurate system MDP models to understand their behavior.
- Selected and applied appropriate reinforcement learning algorithms for optimal control and performance.

## WORK EXPERIENCE

### Reinforcement Learning Algorithm Intern

Baidu, Beijing, China

June 2021 - October 2021

- Developed and pioneered the Expert Data-Assisted Multi-Agent Proximal Policy Optimization (EDA-MAPPO), an innovative multi-agent cooperative adversarial algorithm.
- Successfully engineered and implemented the algorithm, delivered it to the client, and passed client acceptance testing.

### Reinforcement Learning Algorithms Engineer

InspirAI, Hangzhou, China

June 2022 - May 2023

- Designed and implemented general AI solutions for various card games, including "Three Kingdoms Kill," "Hearthstone," "Landlord," and "GuanDan".
- Led the implementation of the Landlord project, managing complete SDK development and implementing AI algorithm solutions for win-rate control and consecutive bomb modes.
- Oversaw algorithm performance improvements in the GuanDan project, resulting in a 6% increase in win rate through overall solution design and pipeline implementation.

## PUBLICATIONS

- Chen P, He Z, Chen C, et al. Control strategy of speed servo systems based on deep reinforcement learning[J]. Algorithms, 2018, 11(5): 65. [Link](#), [Code](#)
- Wang J, Zhang L, He Z, et al. Erlang planning network: An iterative model-based reinforcement learning with multi-perspective[J]. Pattern Recognition, 2022, 128: 108668. [Link](#), [Code](#)

## ADDITIONAL INFO AND AWARDS

- Zhihu: Notable Blogger with over 10k followers.
- East China Jiaotong University Outstanding Graduate (2019).
- Third Prize in the 15th "Challenge Cup" Jiangxi Division (2017).
- Second Prize in the International Mathematical Modeling Competition for American College Students (2018).
- National Computer Rank Examination Level 2 (C Language), Level 3, Level 4 Certificates (Network Technology, Network Engineer).