Yu Zhao

📱 +82 1092630528

✉ zhaoyu0112@hanyang.ac.kr

💬 WeChat: zhaoyuchinese

 http://zhaoyuchinese.github.io
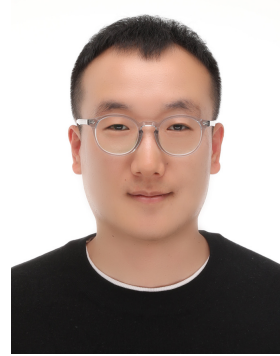
EDUCATION

Mar. 2019 - Feb. 2024	Ph.D. degree in electronic engineering at Hanyang University (**CSC**)
Sep. 2013 - Jul. 2017	B.S. in Electronic and Information Engineering at Harbin University of Science and Technology

RESEARCH INTERESTS

1. Reinforcement learning for the wireless networks optimization

2. Reconfigurable Intelligent Surfaces for 6G Cellular Networks

3. Random access for the IoT netw

4. 6G mobile communicati

5. Bandit algorithm

WORK EXPERIENCE

May 2018 - Jan. 2019	Shenzhen Zhenhua Microelectronics Co., LTD. R&D Engineer (thick film hybrid integrated circuit design)

RESEARCH EXPERIENCE

1. **Learning-based Network Traffic Scheduling for Smart Devices and Edge Clouds**

   - Design a high throughput random access protocol for communication.

2. **Lightweight Reinforcement learning for Cross-Layer wireless scheduling for URLLC**

   - Design an online structural RL algorithms that efficiently obtain an optimal scheduling policy so that they can guarantee little performance loss and be implemented in real systems.

3. **Reinforcement learning-based intelligent device personalization and resource management technology**

   - URLLC and low-latency communication is established between the communication system and the

user side, which ensures the QoS and improves system performance.

4. **AI based distributed channel access for massive IoT**

   - Mathematical modeling of multi-user uplink random access systems.

PUBLICATIONS (*CORRESPONDING AUTHOR OR CO-FIRST AUTHORS)

1. **Yu Zhao**, Yeongjin Kim, Joohyun Lee (2023). "SOQ: Structural Reinforcement Learning for Constrained Delay Minimization with Channel State Information" *IEEE Internet of Things Journal*, Accepted. (JCR Q1; IF: 10.6)

2. Xinxing Zheng, **Yu Zhao**, Joohyun Lee, Wei Chen (2023). "Multi-agent deep reinforcement learning for cross-layer scheduling in mobile ad-hoc networks." *China Communications*, Accepted. (JCR Q2; IF: 4.1)

3. Dongwoo Lee, **Yu Zhao***, Jun-Bae Seo, Joohyun Lee (2022). "Multi-agent reinforcement learning for a random access game." *IEEE Transactions on Vehicular Technology*, 71(8), 9119–9124. (JCR Q1; IF: 6.239)

4. **Yu Zhao**, Joohyun Lee, Wei Chen (2021). "Q-greedyucb: A new exploration policy to learn resource-efficient scheduling". *China Communications*, 18(6), 12–23. (JCR Q2; IF: 4.1)

5. Dongwoo Lee, **Yu Zhao**, Joohyun Lee (2021). "Reinforcement learning for random access in multi-cell networks." *In 2021 international conference on artificial intelligence in information and communication (ICAIIC)* (pp. 335–338). IEEE.

6. **Yu Zhao**, Joohyun Lee (2019). "A reinforcement learning based low-delay scheduling with adaptive transmission." *In 2019 international conference on information and communication technology convergence (ICTC)* (pp. 916–919). IEEE.

7. **Yu Zhao**, Jun-Bae Seo, Joohyun Lee. "NOMA-based Random Access: Multi-Agent Reinforcement Learning Method" *2023 kics winter conference.* 2023, pp. 140-141.

8. Dongwoo Lee, **Yu Zhao**, Joohyun Lee. "Deep Learning Based MIMO QAM Decoder" *2021 kics winter conference.* 2021, pp. 107-108.

TALKS

- "Ad-hoc Network Cross-Layer Scheduling: Multi-Agent Deep Reinforcement Learning Approach", BK21 Workshop Annual Conference, Wonju, Gangwon Province, South Korea, June 2023.

- "Random Access Technology Based on Non-orthogonal multiple Access: a multi-agent reinforcement Learning Approach", KICS, Pyeongchang, Gangwon Province, Korea, February 2023.

- "Multi-agent Reinforcement Learning Methods for Random Access Games", BK21 Workshop Annual Conference, Wonju, Gangwon Province, South Korea, June 2022.

Honors and Awards

Jul. 2023   Outstanding Paper Award, Brian Korea 21 (BK21).

Jun. 2022   Outstanding Researcher Award, Brian Korea 21 (BK21).

Mar. 2022   China Scholarship Council (CSC) State Scholarship Fund, Ministry of Education of the People's Republic of China.

Oct. 2021   Research Excellence Scholarship for Master and Doctoral Programs, HYU.

Apr. 2021   Research Excellence Scholarship for Master and Doctoral Programs, HYU.

Oct. 2020   Research Excellence Scholarship for Master and Doctoral Programs, HYU.