Yu Zhao

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⌾ http://zhaoyuchinese.github.io
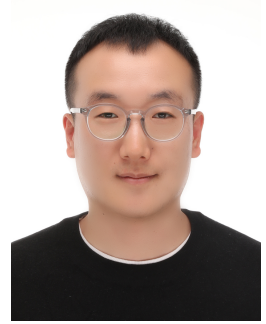
Education

Mar. 2019 – present	Pursuing the combined master and Ph.D. degree in electronic engineering at Hanyang University.
Sep. 2013 – Jul. 2017	B.S. in Electronic and Information Engineering at Harbin University of Science and Technology.
Sep. 2016 – Jul. 2017	Exchange student at Chonnam National University.

Research interests

1. Reinforcement learning for the wireless networks optimization
2. Reconfigurable Intelligent Surfaces for 6G Cellular Networks
3. Random access for the IoT networks
4. 6G mobile communication
5. Bandit algorithms

Research Experience

1. Learning-based Network Traffic Scheduling for Smart Devices and Edge Clouds
   - Design a high throughput random access protocol for communication system.

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

Journal Articles

1. Zheng, X., Zhao, Y., Lee, J., & Chen, W. (2023). Multi-agent deep reinforcement learning for cross-layer scheduling in mobile ad-hoc networks. *China Communications*, *Accepted*.

2. Lee, D., Zhao, Y., Seo, J.-B., & Lee, J. (2022). Multi-agent reinforcement learning for a random access game. *IEEE Transactions on Vehicular Technology*, *71*(8), 9119–9124.

3. Zhao, Y., Lee, J., & Chen, W. (2021). Q-greedyucb: A new exploration policy to learn resource-efficient scheduling. *China Communications*, *18*(6), 12–23.

Conference Proceedings

1. Zhao, Y., Seo, J.-B., & Lee, J. (2023). Noma-based random access: Multi-agent reinforcement learning method. In *2023 kics winter conference* (pp. 140–141). KICS.

2. Lee, D., Zhao, Y., & Lee, J. (2021a). Deep learning based mimo qam decoder. In *2021 kics winter conference* (pp. 107–108). KICS.

3. Lee, D., Zhao, Y., & Lee, J. (2021b). 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.

4. Zhao, Y., & Lee, J. (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.

Honors and Awards

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.

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