Hailiang Zhao

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BIOGRAPHY

Currently I am a first-year Ph.D. student of College of Computer Science and Technology, Zhejiang University (http://www.zju.edu.cn/). Before my Ph.D. career, I was an undergraduate student from Wuhan University of Technology (http://www.whut.edu.cn/) and received my B.Eng. degree in Computer Science and Technology on June, 2019. In September 2019, I was admitted to study for a Ph.D. degree in Zhejiang University under the supervision of Prof. Shuiguang Deng (https://person.zju.edu.cn/shuiguang) without entrance examination.

EDUCATION

PhD student, Computer Science and Technology
Zhejiang University, Hangzhou, China — Sep 2019 - Jun 2024

Bachelor of Engineering, Computer Science and Technology
Wuhan University of Technology, Wuhan, China — Sep 2015 - Jun 2019

RESEARCH INTERESTS

I am interested in **Cloud & Edge Computing**, **Network Management**, and **Distributed Systems**. Currently I am focusing on:

- **Service Scheduling & Online Resource Allocation**. Cluster schedulers are key to realizing improvements in resource utilization for the cloud-native apps. Current cluster schedulers rely on heuristics that prioritize generality, ease of understanding, and straightforward implementation over achieving the ideal performance on a specific workload. However, they ignore readily available information about job structure (i.e., internal dependencies) and efficient parallelism for jobs' input sizes. How to design a better online resource allocation algorithm (mechanism) is of importance.
- **AI-driven Optimization**. In our *Edge Intelligence paper*, we divide Edge Intelligence into *AI for edge* and *AI on edge*. The former focuses on providing a more optimal solution to the key concerns in Edge Computing with the help of popular and resultful AI technologies while the latter studies how to carry out the entire process of AI models, i.e., model training and inference, on edge. What I put emphasis on is that how to apply AI-based models, especially reinforcement learning and graph neural networks, to improve the QoE.

SELECTED PUBLICATIONS

- **Hailiang Zhao**, Shuiguang Deng*, Zijie Liu, Zhengzhe Xiang, Jianwei Yin, Schahram Dustdar, and Albert Y. Zomaya, *DPoS: Decentralized, Privacy-Preserving, and Low-Complexity Online Slicing for Multi-Tenant Networks*. In: **IEEE Transactions on Mobile Computing (TMC)**, doi: 10.1109/TMC.2021.3074934. (Core A*, CCF A)

- **Hailiang Zhao**, Shuiguang Deng*, Zijie Liu, Jianwei Yin, and Schahram Dustdar, *Distributed Redundant Placement for Microservice-based Applications at the Edge.* In: **IEEE Transactions on Services Computing (TSC)**, doi: doi: 10.1109/TSC.2020.3013600. (Core A*, CCF B)
- Shuiguang Deng, Guanjie Chen, **Hailiang Zhao**, Honghao Gao, and Jianwei Yin, *Incentive-driven Computation Offloading in Blockchain-enabled E-commerce.* In: **ACM Transactions on Internet Technology (TOIT)**, doi: https://doi.org/10.1145/3397160. (Core B, CCF B)
- Shuiguang Deng, **Hailiang Zhao**, Weijia Fang*, Jianwei Yin, Schahram Dustdar and Albert Y. Zomaya, *Edge Intelligence: The Confluence of Edge Computing and Artificial Intelligence.* In: **IEEE Internet of Things Journal**, doi: 10.1109/JIOT.2020.2984887. (JCR Q1)
- Yishan Chen, Shuiguang Deng*, **Hailiang Zhao**, Qiang He, Yin Li and Honghao Gao, *Data-intensive Application Depolyment at Edge: A Deep Reinforcement Learning Approach.* In: **Proceedings of the 17th IEEE International Conference on Web Services (ICWS'19)**, Milan, Italy, 2019. (Core A, CCF B)
- **Hailiang Zhao**, Shuiguang Deng*, Cheng Zhang, Wei Du, Qiang He and Jianwei Yin, *A Mobility-aware Cross-edge Computation Offloading Framework for Partitionable Applications.* In: **Proceedings of the 17th IEEE International Conference on Web Services (ICWS'19)**, Milan, Italy, 2019. [Best Student Paper] (Core A, CCF B)
- Cheng Zhang, **Hailiang Zhao** and Shuiguang Deng, *A Density-based Offloading Strategy for IoT Devices in Edge Computing Systems.* In: **IEEE Access**, doi: 10.1109/ACCESS.2018.2882452.
- **Hailiang Zhao**, Wei Du*, Wei Liu, Tao Lei and Qiwang Lei, *QoE Aware and Cell Capacity Enhanced Computation Offloading for Multi-Server Mobile Edge Computing Systems with Energy Harvesting Devices.* In: **Proceedings of the 15th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC'18)**, Guangzhou, China, 2018. (Core B, CCF C)

HONORS

Outstanding Postgraduates Award of CCNT Lab & College of CST, Zhejiang University, Oct 2020
Doctoral Freshman Scholarship of Zhejiang University, Sep 2019
Best Student Paper Award of the 2019 IEEE International Conference on Web Service, July 2019
Outstanding Graduate of Wuhan University of Technology, June 2019
The Excellence Award of Wuhan University of Technology, Oct 2018