YIHONG LI

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EDUCATION

Sun Yat-sen University, Guangzhou *September 2021 – June 2024*
Master of Engineering in 2024, School of Computer Science and Engineering
Sun Yat-sen University, Guangzhou *September 2017 – June 2021*
Bachelor of Management, School of Information Management

CURRENT RESEARCH INTERESTS

Distributed machine learning systems, large-scale machine learning training/inference, reinforcement learning applications, recommender systems, video analytics systems.

PUBLICATIONS

TapFinger: Task Placement and Fine-Grained Resource Allocation for Edge Machine Learning
First author, IEEE Conference on computer communications (INFOCOM), 2023. [Link]
We adopt multi-agent reinforcement learning and other techniques to co-optimize task placement and fine-grained multi-resource allocation for edge ML. Experiments show a 28.6% reduction in the total task completion time.
Task Placement and Resource Allocation for Edge Machine Learning: A GNN-based Multi-Agent Reinforcement Learning Paradigm (Under Review)
First author, IEEE Transactions on Parallel and Distributed Systems, 2023. [Link]
We generalize *TapFinger* to the multi-task scheduling case, in which a sequence of tasks is scheduled simultaneously, mitigating the decision space. We finally reduce the total task completion time by 54.9%.

PRE-GRADUATION INDUSTRIAL EXPERIENCES

ByteDance Ltd. *January 2021 – June 2021*
Backend Engineer Intern

I worked with the developer ecology group to develop and maintain the ByteDance micro-app open API and services of the third-party open platform for ByteDance micro-apps.

ACADEMIC EXPERIENCES

Student Cluster Competition Team, Sun Yat-sen University *October 2019 – July 2021*

I was responsible for large-scale distributed training and inference of AI models in high-performance computing and supercomputer competitions.
In the 2020-2021 ASC Student Supercomputer Challenge, we won third place in the finals and the Highest LINPACK Award.

Matrix Development Team, Sun Yat-sen University *July 2019 – November 2020*

I worked with the team to develop and maintain Matrix, an online judge system of the School of Computer Science and Engineering at Sun Yat-sen University, used for online homework assignments and exam evaluations.

SKILLS

Programming Languages: C++, C, Python3, Golang, Java, SQL, Shell
Deep Learning: NumPy, PyTorch, Horovod, Ray
Development: Linux, Git, Docker
Markup Languages: LaTeX, Markdown

AWARDS

Excellent Student Second Prize Scholarship ×3 *September 2019 – September 2022*
2020 Excellent Student Academic Competition Award *September 2019 – September 2020*
Meritorious Winner, 2020 International Mathematical Contest in Modeling *March 2020*
First prize in Guangdong, 2019 China Mathematical Contest in Modeling *September 2019*
Excellent at school level, Innovation and Entrepreneurship Program for Students *September 2019*