

JIAMIN LI

Email: jiaminli.icy@gmail.com, Phone: +852-54847038

Ph.D. Candidate (third year) ◊ Department of Computer Science ◊ City University of Hong Kong

RESEARCH INTERESTS

- Distributed machine learning system
 - Faster and easier distributed training and inference for large-scale ML
- Resource scheduling
 - Schedule jobs/tasks/executors with maximum efficiency
- Simulation of distributed machine learning system
 - Accurate and efficient performance simulation of distributed training workloads

EDUCATION

City University of Hong Kong Ph.D. Student, Department of Computer Science. Supervisor: Prof. Hong XU, Henry (CUHK), Prof. Cong WANG (CityU)	Sep. 2019 – Present
City University of Hong Kong B.S., Department of Computer Science (First Class Honours, Rank: 6/91). Advisor: Dr. Shiqi WANG Dissertation: “Mobile Face Anti-spoofing with Deep Learning”	Aug. 2015 – Jul. 2019
University of Missouri, Columbia, MO, United States Big Data Analysis Summer Program, Department of Computer Science.	Jul. 2017 – Aug. 2017

EXPERIENCE

Research Intern Supervisor: Dr. Yibo Zhu, ByteDance Topic: Organizations build separate training and inference GPU clusters for deep learning, and use separate schedulers to manage them. This leads to problems for both: inference clusters have low GPU utilization when the traffic load is low; training jobs often experience long queuing due to lack of resources. Lyra is an elastic GPU cluster scheduler for deep learning to address these problems. The key idea is to exploit cluster-level elasticity by loaning idle inferences servers for training, and job-level elasticity by scaling jobs to better utilize the dynamic resource pool.	May. 2019 – May. 2021
Part-time Research Assistant Supervisor: Prof. Hong Xu, City University of Hong Kong Topic: We aim to accelerate the PS distributed training system by reducing the transfer size of each communication operation, develop a control knob that schedules send and receive operations in PS distributed training system.	Jun. 2018 – Jun. 2019
Backend Developer Intern Jardine, Matheson & Co., Limited Topic: Design and develop web services for employee recruitment in Group Human Resources department	May. 2017 – May. 2018

PUBLICATIONS

Conference Publication

- [C3] **Jiamin Li**, Yimin Jiang, Yibo Zhu, Cong Wang, Hong Xu, “Lina: Accelerating Distributed Training of Large Sparsely Activated Models”, under review.
- [C2] **Jiamin Li**, Hong Xu, Yibo Zhu, Zherui Liu, Chuanxiong Guo, Cong Wang, “Lyra: Elastic Cluster Scheduling for Deep Learning”, under review.
- [C1] Kaiwei Mo, Chen Chen, **Jiamin Li**, Hong Xu, Chun Jason Xue, “Two-Dimensional Learning Rate Decay: Towards Accurate Federated Learning with Non-IID Data”, IEEE International Joint Conference on Neural Networks (**IJCNN**), 2021.

Journal Publication

- [J1] Libin Liu, Chengxi Gao, Peng Wang, Hongming Huang, **Jiamin Li**, Hong Xu, Wei Zhang, “Bottleneck-Aware Non-Clairvoyant Coflow Scheduling with Fai”, accepted by IEEE Transactions on Cloud Computing, 2021 (**TCC**).

SELECTED AWARDS

Full Postgraduate Studentship	CityU	2019 – 2023
Dean’s List (College of Engineering)	CityU	2015 – 2019

TECHNICAL SKILLS

Languages	C/C++, Python, Bash, \LaTeX
Operating Systems	Linux/UNIX
Machine Learning Related	PyTorch, MXNet, NCCL, CUDA