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RESEARCH AREAS

Areas: Cloud Computing; Containers; Resource Management; GPU Virtualization.

Focus: High-performance, resource-efficient GPU architecture and GPU cloud platforms.

EDUCATION

Hong Kong University of Science and Technology

Hong Kong S.A.R., China

Ph.D. in Computer Science and Engineering

Sep. 2021 - Present

GPA: 3.77 / 4.30; HKPFS Awardee

Thesis Supervisor: Prof. WANG, Shuai and Prof. CHU, Xiaowen

Wuhan University

Wuhan, Hubei, China

B.Eng. in Computer Science and Technology

Sep. 2017 - Jun. 2021

GPA: 3.98 / 4.00; GPA Ranking: 2 / 334; Excellent Undergraduate Thesis

Thesis: Idle Memory Reclamation and Overcommitment on Cloud

Thesis Supervisor: Prof. ZHANG, Huyin

INDUSTRIAL EXPERIENCE

Alibaba Cloud

Hangzhou, Zhejiang, China

Research Intern of Cluster Management Group, Cloud Native Division

Oct. 2020 - Jul. 2021

Mentor: HE, Jian

Microsoft Research Asia

Beijing, China

Research Intern of Networking Research Group

Jul. 2020 - Oct. 2020

Mentor: Dr. CHENG, Wenxue and Dr. CHENG, Peng

PUBLICATIONS

Conferences

- 2025 **Yongkang Zhang**, Haoxuan Yu, Chenxia Han, Cheng Wang, Baotong Lu, Yunzhe Li, Zhifeng Jiang, Yang Li, Xiaowen Chu, and Huaicheng Li, “SGDRC: Software-Defined Dynamic Resource Control for Concurrent DNN Inference on NVIDIA GPUs,” in *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP ’25)*, Las Vegas, NV, March 2025. (**Acceptance Rate: 20.1% = 38/189**)
- 2022 **Yongkang Zhang**, Yinghao Yu, Wei Wang, Qiukai Chen, Jie Wu, Zuowei Zhang, Jiang Zhong, Tianchen Ding, Qizhen Weng, Lingyun Yang, Cheng Wang, Jian He, Guodong Yang, and Liping Zhang, “Workload Consolidation in Alibaba Clusters: The Good, the Bad, and the Ugly,” in *the Proceedings of ACM Symposium on Cloud Computing (SoCC ’22)*, San Francisco, CA, November 2022. (**Acceptance Rate: 24.5% = 38/155**)

PROJECTS

Idle Memory Reclamation and Overcommitment on Cloud Container Platform

- A part of my work during the internship at Alibaba (*as a part of my paper published in SoCC'22*).
- Improved the memory utilization by around 10% in multiple Alibaba's data centers without impacting the CPI (cycles per instruction, the metric that reflects a program's performance) of latency-sensitive services.

AlphaRTC (Reinforcement-learning-based Network QoS Management in Real-time Communication)

- A part of my work during the undergraduate internship at Microsoft Research Asia.
- Improved Microsoft's real-time video communication system's network bandwidth estimation model. The RTC's QoS was improved by 72% in *ISP* scenario, 55% in *Burst Loss* scenario.

OTHER EXPERIENCES

Artifact Evaluation Committee: HPCA (2024)

Reviewer: IEEE Transactions on Cloud Computing (2024)

External Reviewer: ChinaSys (2024)

Teaching Assistant: Cloud Computing and Big Data Systems, HKUST (2022 & 2023)

SKILLS

Language: Chinese - Mandarin (Mother tongue); English (TOEFL: 113 / 120; CET-6: 683 / 710).

Programming: C++ / C, Go, Python, Java, Verilog HDL, Tensorflow, PyTorch

AWARDS

Awards Obtained in the Ph.D. Program

RedBird Ph.D. Scholarship, School of Engineering, HKUST 2021 & 2022

Hong Kong Ph.D. Fellowship (*Only 300 Awardees in HK*), University Grant Council 2021 - 2025

Awards Obtained in the Undergraduate Program

Excellent Undergraduate Thesis, Wuhan University 2021

Sensetime Scholarship (Runner-up), Sensetime Group 2019

National Scholarship, The Ministry of Education 2018

The First Class Scholarship, Wuhan University 2018

Awards Obtained in Olympiad in Informatics (Organized by China Computer Federation)

Silver Medal, China Team Selection Competition 2016

Silver Medal, Winter Camp of National Olympiad in Informatics 2016

Bronze Medal, National Olympiad in Informatics 2016

Bronze Medal, Asia-Pacific Informatics Olympiad (China District) 2015 & 2016

First Prize, National Olympiad in Informatics in Provinces 2014 & 2015