Qizhou Zhang

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EDUCATION

Shanghai Jiao Tong University　　　　　　　　　　　　　　　　Sep 2019 - Mar 2022

Electronics and Communication Engineering | Master　　　　　　　　　　　　Shanghai

GPA: 3.50/4.00

Supervisor: [Prof Shizhen Zhao](#)

Hangzhou Dianzi University　　　　　　　　　　　　　　　　　Sep 2015 - Jun 2019

Communication Engineering | Bachelor　　　　　　　　　　　　　　　　　Hangzhou

GPA: 3.40 / 4.00

Research Interests

Data center networking, RDMA, SmartNIC accelerated systems, Programmable networks

RESEARCH EXPERIENCE

Research on High Performance Deadlock-free Data Center Network Design　　Dec 2020 - Sep 2022

This project aims to combine expander networks and RDMA for building cost-effective high-performance data centers, raising a natural question about deadlocks in traditional expander's routing algorithms

- We focused on the deadlock-solving when deploying RoCEv2 that depends on PFC in an expander-based network topology
- Propose a topology-routing co-designed methodology called Flattened Clos (FC) to avoid cyclic buffer dependency, then eliminate the PFC-induced deadlocks.

Publication

- Flattened Clos: Designing High-performance Deadlock-free Expander Data Center Networks Using Graph Contraction. Shizhen Zhao*, Qizhou Zhang*, Peirui Cao, Xiao Zhang, Xinbing Wang, Chenghu Zhou, NSDI 2023. (*co-first author)

Patents

Qizhou Zhang, Shizhen Zhao. 2022. Network construction method and system based on RoCEv2 protocol. CN113965471, filed Oct 22, 2021 and issued Sep 26, 2022.

WORK EXPERIENCE

Huawei　　　　　　　　　　　　　　　　　　　　　　　Jun 2022 - Present

Software Development Engineer | Hisilicon　　　　　　　　　　　　　　　　Chengdu

As a member of TOE (TCP Offload Engine), which is part of the high-speed network service of commercialized SmartNIC products, I work on the performance optimization of our service

- Locate performance issues of TOE, such as improving inefficient implementation of the congestion control algorithm of the TOE.
- Verify optimization features of V200 series chips related to TOE service, such as 64B RQE and TCAM.

Meituan　　　　　　　　　　　　　　　　　　　　　　　Aug 2021 - Sep 2023

Software Engineer Intern | Machine Learning Platform　　　　　　　　　　　　Beijing

- Investigate the tf-operator and pytorch-operator in Kubeflow community
- Customized development based on pytorch-operator

Alibaba Cloud　　　　　　　　　　　　　　　　　　　　　Aug 2020 - Nov 2020

Software Engineer Intern | Network R&D　　　　　　　　　　　　　　　　Hangzhou

- Contribute to the NetSeer project, which is a network performance monitoring system that uses the INT feature of programmable switches to quickly identify link abnormalities such as packet loss and high latency.
- Use the user-mode network library DPDK to write high-performance data acquisition programs, employ Flink for data preprocessing, and utilize JAVA+Spring Boot for visualization development.

TEACHING EXPERIENCE

Teaching Assistant: SJTU CS149: Data Structure, Fall, 2019

Awards

- Second prize of National Post-Graduate Mathematical Contest in Modeling, 2019
- Third prize of China Undergraduate Mathematical Contest, 2019
- Second-class Scholarship in Hangzhou Dianzi University, 2017

Other

Skillset: C++, JAVA, Python, Redis, ibverbs.

Language: English(Proficient), Chinese(Native)