CHENG GUO 郭诚

2st year of Master's degree at Tsinghua University

CONTACT

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SKILLS

Programming

Python
C++
C
P4
Bash
Matlab
HTML/CSS
Java
HDL
LaTeX

Operating Systems

Linux
MacOS
Windows
Android

Software & Tools

Visualisation
(e.g. matplotlib, focusky, ...)
Data handling/analysis
(e.g. numpy, scipy, pandas, ...)
Git
VM/Docker
Office

Languages

Chinese
English
German
Japanese

EDUCATION

09/2021 - 06/2024 — Tsinghua University, Beijing
- **M.Sc. degree** in Institute for Network Science and Cyberspace
- Advisor: Prof. Mingwei Xu

09/2017 - 06/2021 — Tsinghua University, Beijing
- **B.Eng. degree** in Department of Computer Science and Technology

RESEARCH INTERESTS

- **Programmable network and network function offloading.** I have worked on newly emerged programmable network hardware since 2020, including programmable switching ASIC, SmartNIC, etc. I'm familiar with the design strategy and implementation of various programmable offloading systems. I also have some knowledge about software acceleration techniques, e.g. eBPF, DPDK.
- **High performance network.** I have some experience in RDMA and high performance network. I joined lots of discussions about RDMA applications in industrial scenarios.
- **Distributed ML acceleration.** I've learned a lot about the state-of-the-art acceleration techniques of data-parallel distributed ML training, including on-switch aggregation, gradient compression, communication library optimization, etc.

PUBLICATIONS

- IMap: Fast and Scalable In-Network Scanning with Programmable Switches. **[NSDI'22]**
  Guanyu Li, Menghao Zhang, **Cheng Guo**, Han Bao, Mingwe Xu, Hongxin Hu, Fenghua Li. CCF-A/TH-CPL-A, full paper acceptance ratio: 50/298 = 16.8
- Switches are Scanners Too! A Fast and Scalable In-Network Scanner with Programmable Switches. **[HotNets'21]**
  Guanyu Li, Menghao Zhang, **Cheng Guo**, Han Bao, Mingwe Xu, Hongxin Hu. CCF-C/TH-CPL-B, full paper acceptance ratio: 31/101 = 30.7

INTERNSHIP

06/2022 - 09/2022 — ByteDance, Beijing
- In the **High Speed Network** group.
- Keynotes: RDMA adaptive routing, IB network, distributed ML acceleration.

PATENTS

- 徐明伟, 郭诚, 李冠宇, 张梦豪, 王士诚, 李琦. 流量特征提取方法、系统、存储介质及电子设备 [P]. 202111322171.2, 2021-11-09.

SELECTED AWARDS

- Outstanding Graduate, Department of Computer Science & Technology, Tsinghua University, 2021
- The School Scholarship of Academic & Innovation, Tsinghua University, 2020
- The Scholarship of Future Star, Tsinghua University, 2017