CHENG GUO 郭诚

Expected completion of Master's degree in 2024, Tsinghua University

CONTACT

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SKILLS

Programming

Python
C++
C
P4
Bash
Matlab
HTML/CSS
Java
CUDA
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/k8s
Office
AI assistant

Languages

Chinese
English
German
Japanese

EDUCATION

09/2021 - 06/2024 — Tsinghua University, Beijing

- **M.Sc. degree** in Institute for Network Science and Cyberspace
- Major: Cyberspace Security
- Advisor: Prof. Mingwei Xu

09/2017 - 06/2021 — Tsinghua University, Beijing

- **B.Eng. degree** in the Department of Computer Science and Technology
- Major: 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/DPU, etc. I'm familiar with the design strategy and implementation of various programmable offloading systems.
- **High performance network.** I've learned a lot about state-of-the-art high performance network techniques, including RDMA(RoCE, IB), DPDK, eBPF. I'm also experienced in their applications in DC networks, e.g. distributed ML training acceleration and storage network.

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
- MulTA: Enabling Cost-efficient Multi-task Network Traffic Analysis. **[Globecom'23]**
  Cheng Guo, Menghao Zhang, Guanyu Li, Mingwe Xu. CCF-C/TH-CPL-B, full paper acceptance ratio: lower than 40%.

WORKING EXPERIENCE

06/2022 - 09/2022 — ByteDance, Beijing

- Internship in the **High Speed Network** group.
- Keynotes: RDMA routing, IB network, distributed ML training acceleration.

06/2023 - now — Alibaba, Beijing

- Internship in the **Network Research** group.
- Keynotes: NCCL optimization, distributed ML training 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