

HONGQIANG LIU

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EDUCATION

Yale University, United States

August 2010 - May 2014

Doctor of Philosophy

Department of Computer Science

Tsinghua University, China

August 2007 - July 2010

Master of Engineering

Department of Electronic Engineering

Tsinghua University, China

August 2003 - July 2007

Bachelor of Engineering

Department of Electronic Engineering

PUBLICATION (POST-GRADUATION)

Topic-1: New Generation of Data Center Network with Programmable Data Plane

- Yu Zhou, Chen Sun, Hongqiang Harry Liu, Rui Miao, Shi Bai, Zhilong Zheng, Lingjun Zhu, Zhen Shen, Yongqing Xi, Pengcheng Zhang, Dennis Cai, Ming Zhang, Mingwei Xu. *Flow Event Telemetry on Programmable Data Plane*. [SIGCOMM'20](#).
- Jiaqi Gao, Ennan Zhai, Hongqiang Harry Liu, Rui Miao, Yu Zhou, Bingchuan Tian, Chen Sun, Dennis Cai, Ming Zhang, Minlan Yu. *Lyra: A Cross-Platform Language and Compiler for Data Plane Programming on Heterogeneous ASICs*. [SIGCOMM'20](#).
- Yuliang Li, Rui Miao, Hongqiang Harry Liu, Yan Zhuang, Fei Feng, Lingbo Tang, Zheng Cao, Ming Zhang, Frank Kelly, Mohammad Alizadeh, Minlan Yu. *HPCC: High Precision Congestion Control*. [SIGCOMM'19](#).
- Daehyeok Kim, Amirsaman Memaripour, Anirudh Badam, Yibo Zhu, Hongqiang Harry Liu, Jitu Padhye, Shachar Raindel, Vyas Sekar, Srinivasan Seshan, Steven Swanson. *HyperLoop: Group-based NIC Offloading to Accelerate Replicated Transactions in Multi-Tenant Storage Systems*. [SIGCOMM'18](#).

Topic-2: Network Validation in Large-Scale Production Deployments

- Fangdan Ye, Da Yu, Ennan Zhai, Hongqiang Harry Liu, Bingchuan Tian, Qiaobo Ye, Chunsheng Wang, Xin Wu, Tianchen Guo, Cheng Jin, Duncheng She, Qing Ma, Biao Cheng, Hui Xu, Ming Zhang, Zhiliang Wang, Rodrigo Fonseca. *Accuracy, Scalability, Coverage A Practical Configuration Verifier on a Global WAN*. [SIGCOMM'20](#).
- Bingchuan Tian, Xinyi Zhang, Ennan Zhai, Hongqiang Harry Liu, Qiaobo Ye, Chunsheng Wang, Xin Wu, Zhiming Ji, Yihong Sang, Ming Zhang, Da Yu, Chen Tian, Ben Zhao, Heather Zheng. *Safely and Automatically Updating In-Network ACL Configurations with Intent Language*. [SIGCOMM'19](#).
- Hongqiang Harry Liu, Yibo Zhu, Jitu Padhye, Jiabin Cao, Sri Tallapragada, Nuno Lopes, Andrey Rybalchenko, Guohan Lu, Lihua Yuan. *CrystalNet: Faithfully Emulating Large Production Networks*. [SOSP'19](#).
- Aaron Gember-Jacobson, Aditya Akella, Ratul Mahajan, Hongqiang Harry Liu. *Automatically Repairing Network Control Planes Using an Abstract Representation*. [SOSP'19](#).

Topic-3: AI & Network

- Juncheng Gu, Mosharaf Chowdhury, Kang G. Shin, Yibo Zhu, Myeongjae Jeon, Junjie Qian, Hongqiang Harry Liu, Chuanxiong Guo. *Tiresias: A GPU Cluster Manager for Distributed Deep Learning*. [NSDI'19](#).
- Behnaz Arzani, Selim Ciraci, Luiz Chamon, Yibo Zhu, Hongqiang Harry Liu, Jitu Padhye, Geoff Outhred, Boon Thau Loo. *007: Democratically Finding The Cause of Packet Drops*. [NSDI'18](#).
- Omid Alipourfard, Hongqiang Harry Liu, Jianshu Chen, Shivaram Venkataraman, Minlan Yu, Ming Zhang. *CherryPick: Adaptively Unearthing the Best Cloud Configurations for BigData Analytics*. [NSDI'17](#).

Other Topics: Container Networks, Cloud and Wireless

- Daehyeok Kim, Tianlong Yu, Hongqiang Harry Liu, Yibo Zhu, Jitu Padhye, Shachar Raindel, Chuanxiong Guo, Vyas Sekar, Srinivasan Seshan. *FreeFlow: Software-based RDMA Virtual Networking for Containerized Clouds*. [NSDI'19](#).
- Danyang Zhuo, Kaiyuan Zhang, Yibo Zhu, Hongqiang Harry Liu, Matthew Rockett, Arvind Krishnamurthy, Thomas Anderson. *Slim: OS Kernel Support for a Low-Overhead Container Overlay Network*. [NSDI'19](#).
- Hongqiang Harry Liu, Raajay Viswanathan, Matt Calder, Aditya Akella, Ratul Mahajan, Jitendra Padhye, Ming Zhang. *Efficiently Delivering Online Services over Integrated Infrastructure*. [NSDI'16](#).
- Renjie Zhao, Purui Wang, Xianshang Lin, Yunfei Ma, Pengyu Zhang, Hongqiang Harry Liu, Xinyu Zhang, Chenren Xu, Ming Zhang. *NFC+: Breaking NFC Networking Limits through Resonance Engineering*. [SIGCOMM'20](#).

PUBLICATION (PRE-GRADUATION)

- Hongqiang Harry Liu, Srikanth Kandula, Ratul Mahajan, Ming Zhang, David Gelernter. *Traffic Engineering with Forward Fault Correction*. [SIGCOMM'14](#).
- Rohan Gandhi, Hongqiang Harry Liu, Y. Charlie Hu, Guohan Lu, Jitu Padhye, Lihua Yuan, Ming Zhang. *Duet: Cloud Scale Load Balancing with Hardware and Software*. [SIGCOMM'14](#).
- Xin Jin, Hongqiang Harry Liu, Rohan Gandhi, Srikanth Kandula, Ratul Mahajan, Jennifer Rexford, Roger Wattenhofer, Ming Zhang. *Dynamic Scheduling of Network Updates*. [SIGCOMM'14](#).
- Hongqiang Harry Liu, Xin Wu, Ming Zhang, Lihua Yuan, Roger Wattenhofer, David Maltz. *zUpdate: Updating Data Center Networks With Zero Loss*. [SIGCOMM'13](#).
- Hongqiang Harry Liu, Ye Wang, Yang Richard Yang, Hao Wang, Chen Tian. *Optimizing Cost and Performance for Content Multihoming*. [SIGCOMM'12](#).

TECHNOLOGY DEPLOYMENTS

CrystalNet: Deployed in Microsoft Azure.

HPCC: Deployed in Alibaba Cloud.

Hoyan & Jinjing: Deployed in Alibaba Cloud.