Qizhe Cai

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Research Interests

- Operating systems and computer networking.

Experience

University of Virginia — Assistant Professor | Charlottesville, VA   2025.07 – Present
- Assistant Professor, Department of Computer Science.

Enfabrica — Member of Technical Staff | Mountain View, CA   2024.07 – 2025.07
- Member of Technical Staff.

Education

Cornell University   Ithaca, NY
Ph.D. in Computer Science   2018.08 – 2024.05
- Overall GPA: 4.0/4.0.
- Thesis: *Design Efficient Network Stacks/Protocols for Terabit Ethernet.*
- Advisor: Prof. Rachit Agarwal.

Princeton University   Princeton, NJ
M.S.E. (thesis-track) in Computer Science   2016 – 2018.06
- Overall GPA: 3.95/4.0.
- Thesis: *Network-Wide Heavy Hitter Detection For Real-Time Telemetry.*
- Advisor: Prof. Jennifer Rexford.

University of Michigan   Ann Arbor, MI
B.S.E. in Computer Science, Summa Cum Laude   2012 – 2016
- Overall GPA: 3.956/4.0.

Professional Activities

Program Committee: USENIX NSDI 2026; SOSP SysDW Workshop (2024).

Community Service: SIGCOMM Artifact Evaluation Co-chair (2025).

External Reviewer: *IEEE Transactions on Network and Service Management, IEEE Transactions on Mobile Computing, Computer Networks, IEEE Transactions on Consumer Electronics, IEEE Network Magazine.*

Awards and Honors

- **Meta Fellowship**   2022
- **James B. Angell Scholar**, University of Michigan   2014, 2015, 2016
- **Dean's List**, University of Michigan   2013, 2014, 2015
- **University Honors**, University of Michigan   2012, 2013, 2014, 2015

PUBLICATIONS

1. Benny Rubin, Saksham Agarwal, **Qizhe Cai**, Rachit Agarwal. Fast and Safe Memory Protection for Networked Systems. *ACM SOSP*, 2024.

2. Athinagoras Skiadopoulos, Zhiqiang Xie, Mark Zhao, **Qizhe Cai**, Saksham Agarwal, Jacob Adelmann, David Ahern, Carlo Contavalli, Michael Goldflam, Vitaly Mayatskikh, Raghu Raja, Daniel Walton, Rachit Agarwal, Shrijeet Mukherjee, Christos Kozyrakis. High-throughput and Flexible Host Networking for Accelerated Computing. *USENIX OSDI*, 2024.

3. Saksham Agarwal, **Qizhe Cai**, Rachit Agarwal, David Shmoys, Amin Vahdat. Harmony: A Congestion-free Datacenter Architecture. *USENIX NSDI*, 2024.

4. **Qizhe Cai**, Midhul Vuppalapati, Jaehyun Hwang, Christos Kozyrakis, Rachit Agarwal. Towards μs Tail Latency and Terabit Ethernet: Disaggregating the Host Network Stack. *ACM SIGCOMM*, 2022.

5. **Qizhe Cai**, Mina Tahmasbi Arashloo, Rachit Agarwal. dcPIM: Near-Optimal Proactive Datacenter Transport. *ACM SIGCOMM*, 2022.

6. **Qizhe Cai**, Shubham Chaudhary, Midhul Vuppalapati, Jaehyun Hwang, Rachit Agarwal. Understanding Host Network Stack Overheads. *ACM SIGCOMM*, 2021.

7. Jaehyun Hwang, **Qizhe Cai**, Rachit Agarwal, Ao Tang. I10: A Remote Storage I/O Stack for High-Performance Network and Storage Hardware. *USENIX NSDI*, 2020.

8. Rob Harrison, **Qizhe Cai**, Arpit Gupta, Jennifer Rexford. Network-Wide Heavy Hitter Detection with Commodity Switches. *ACM SOSR*, 2018.

TALKS & INVITED PRESENTATIONS

1. **Fast & Safe I/O Memory Protection**. Purdue University, Oct 2025.

2. **Building Networked Systems for Terabit Ethernet**. Sungkyunkwan University (SKKU), Korea, Oct 2025.

3. **Towards μs Tail Latency and Terabit Ethernet: Disaggregating the Host Network Stack**. Alibaba Group, 2023.

4. **Understanding Host Network Stack Overheads**. Linux NetDev, 2021.