XIANGQUN ZHANG

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EDUCATION

Ph.D. in Computer & Information Science & Engineering (now ABD), Syracuse University — 2020 - Expected 2026
M.S. in Computer Science, New York University — 2018 - 2019
B.S. in Mathematics-Computer Science, University of California, San Diego — 2014 - 2018
B.A. in German Studies (w/ Distinction), University of California, San Diego — 2014 - 2018

OBJECTIVES

I am a current sixth-year Ph.D. Candidate at Syracuse University with industry and research experience in the field of computer systems, storage systems, and computer networks. I hope to apply my research and engineering skills to create more efficient, dependable, and resilient computer systems by addressing the bottleneck of computer storage.

PUBLICATIONS

ASEE '25 **Xiangqun Zhang**, Ziyang Jiao, Farzana Rahman, and Bryan S. Kim. **Filling in the Missing Piece: Integrating Storage into CompOrg Courses**, in *Proceedings of the 2025 ASEE Annual Conference & Exposition*, 2025.

ACM ToS '25 **Xiangqun Zhang**, Janki Bhimani, Shuyi Pei, Eunji Lee, Sungjin Lee, Yoon Jae Seong, Eui Jin Kim, Changho Choi, Eyee Hyun Nam, Jongmoo Choi, and Bryan S. Kim. **Storage Abstractions for SSDs: The Past, Present, and Future**, in *ACM Trans. Storage*, 2025.

FAST '24 Ziyang Jiao, **Xiangqun Zhang**, Hojin Shin, Jongmoo Choi, and Bryan S. Kim. **The Design and Implementation of a Capacity-Variant Storage System**, in *Proceedings of the 22nd USENIX Conference on File and Storage Technologies*, 2024.

HotStorage '23 **Xiangqun Zhang**, Shuyi Pei, Jongmoo Choi, and Bryan S. Kim. **Excessive SSD-Internal Parallelism Considered Harmful**, in *Proceedings of the 15th ACM Workshop on Hot Topics in Storage and File Systems*, 2023.

SKILLS

Research Interests Storage systems, operating systems, compute express link (CXL), computer architecture, computer networks, computer security, cryptography

Computer Science Skills C, C++, Linux Kernel, Python, PHP, JavaScript, React, Julia, Java, MATLAB, Haskell, Coq, HTML, LaTeX, SQL, Database optimization, Docker, Kubernetes

Language Skills English, German, Chinese (Mandarin)

INDUSTRY EXPERIENCES

PhD Software Engineer Intern, Meta Platforms, Inc., *Menlo Park, CA* — May 2025 - August 2025

- Stay tuned for more information after my internship ends!

Intern, Eeum Inc., *Campbell, CA* — May 2024 - August 2024

- Worked on OpenCIS, one of the first public Compute Express Link (CXL) simulators publicly available.
- Implemented hardware logic, including CXL.cache, back-invalidation, packet routing, PCIe definitions, etc.
- Promoted OpenCIS at the Future of Memory and Storage (FMS) and Supercomputing (SC) 2024 as an exhibitor.

RESEARCH EXPERIENCES

Improving CXL Performance in Complex Environments w/ Eeum, Inc. — May 2024 - Now
S4 Lab, Syracuse University

- Contributed a significant portion of the OpenCIS emulator platform. Implemented CXL Type 1/2 devices and improved the functionalities of CXL Type 3 devices. Enhanced the CXL switch module to accommodate different types of CXL devices. Expanded the functionalities for hosts and devices to work with CXL fabric manager.

Raising Awareness of Storage in Computer Organization Courses — August 2023 - Now
S4 Lab, Syracuse University

- Identified storage is an important but usually ignored topic in computer organization courses in the USA, especially when students usually know nothing about storage when they grow up with smartphones. Created a programming assignment to implement SSD internal logic for handling I/O requests. Showed that students were able to learn the topic effectively with the assignment. The results were published at ASEE '25.

Tracing the Evolution of SSD Interfaces October 2023 - October 2024
S4 Lab, Syracuse University

- Traced the evolution of recent SSD storage abstractions and extensions. Surveyed dozens of papers to understand the relationship of different academic work. Reviewed source code of different storage abstractions to show their internal connections. The results were published in ACM ToS '25.

Creating Dynamically Provisioned SSDs w/ Samsung Semiconductors August 2021 - January 2023
S4 Lab, Syracuse University

- Worked on improving SSD performance under multiple tenants. Implemented prior works as Linux kernel modules using C programming language. Discovered excessive SSD-internal parallelism can impact SSD performance and lifespan. The results were published at HotStorage '23. Patents pending.

TEACHING ASSISTANT EXPERIENCES

CIS 341 Computer Organization & Programming Systems Fall 2022, Fall 2023

- C, assembly, memory hierarchy, security, CPU pipelining, virtual memory, modern storage technology

CIS 600 Social Media & Data Mining Spring 2023

- Crawler, Python, social network analysis/modelling, plagiarism detection

ACADEMIC SERVICES

Reviewer

- ACM Technical Symposium on Computer Science Education (SIGCSE TS) 2025
- ACM Virtual Global Computing Education Conference (SIGCSE VIRTUAL) 2024

Artifact Evaluation Program Committee

- USENIX Conference on File and Storage Technologies (FAST) 2026 (Invited)
- USENIX Symposium on Operating Systems Design and Implementation (OSDI) 2024–2025
- USENIX Annual Technical Conference (ATC) 2024