

Ziyang Jiao

Department of Electrical Engineering and Computer Science
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🌐 LinkedIn Profile

EDUCATION

•Syracuse University, New York

Aug 2020 – Now

Ph.D. in Computer & Information Science & Engineering (GPA: 3.8/4.0)

•Washington University in St. Louis, Missouri

Aug 2019 – Aug 2020

M.S. in Computer Science (GPA: 4.0/4.0)

SKILLS

Core: Storage Systems, Flash-based Storage, RAID Systems, Operating Systems, NVMe

Programming languages: C, C++, Python, HTML5

Virtualization platforms: QEMU

Tracing: kernel (BCC Tools, bpftrace), block I/O (blktrace, blkparse, btreord, btreplay), performance (perf)

File systems: in-place update FSs (ext4), LFSs (f2fs), file system utilities (e2fsprogs, f2fs-tools), file fragmentation

Databases: Transactional & analytical databases (RocksDB, LevelDB, MySQL)

PUBLICATIONS AND TALKS

Ziyang Jiao and Bryan S. Kim. "Asymmetric RAID: Rethinking RAID for SSD Heterogeneity." *In ACM Workshop on Hot Topics in Storage and File Systems, 2024*.

Ziyang Jiao, Xiangqun Zhang, Hojin Shin, Jongmoo Choi, and Bryan S. Kim. "The Design and Implementation of a Capacity-Variant Storage System." *In USENIX Conference on File and Storage Technologies, 2024 (Awarded with artifact badges)*.

Ziyang Jiao, Janki Bhimani, and Bryan S. Kim. "Wear Leveling in SSDs Considered Harmful." *In ACM Workshop on Hot Topics in Storage and File Systems, 2022 (Best Paper Award)*.

Ziyang Jiao and Bryan S. Kim. "Generating Realistic Wear Distributions for SSDs." *In ACM Workshop on Hot Topics in Storage and File Systems, 2022*.

Ziyang Jiao and Bryan S. Kim. "The Fast-Forwardable SSD Aging Framework." *In USENIX Conference on File and Storage Technologies, 2022 (WiP)*.

EXPERIENCE AND INTERNSHIP

•Syracuse University

May 2019 – Now

Research Assistant

Syracuse, NY

- Advisor: Prof. Bryan S. Kim
- **All-flash array and RAID systems:** optimizing system performance and storage utilization by exploiting device heterogeneity from a larger SSD pool.
- **Capacity-variant storage systems:** exploiting the tradeoffs among capacity, performance, and reliability (CPR) in SSDs for performance stability and aging-resilience (NSF Award # 2008453).
- **Self-learning storage systems:** imbuing intelligence to the storage devices so that they can self-learn, self-configure, and self-manage.
- **Next-generation storage stack with FDP/ZNS devices:** exploring the design of a storage stack using FDP (Flexible Data Placement)/ZNS devices instead of traditional block devices.

•Washington University in St. Louis

Jan 2020 – Aug 2020

Teaching Assistant

St. Louis, MO

- Advisor: Prof. Chien-Ju Ho
- Course link: CSE 417T - Introduction to Machine Learning
- Topics: Generalization in finite and infinite hypothesis spaces; Linear models; Nonlinear transformations of data; Overfitting; Modern supervised learning techniques.

•Chinese Academy of Sciences (CAS)

Nov 2018 – Jan 2019

Research Assistant

Beijing, China

- Advisor: Prof. Chao Liu
- Laboratory for Face Recognition Based on Matlab+PCA+SVM.
- Model: supporting vector machine (SVM), neural network (ANN), generative adversarial networks (GAN)

ACADEMIC SERVICES

Artifact evaluation committee member, USENIX Conference on File and Storage Technologies (FAST) 2024

HONORS AND AWARDS

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|---|---------------------|
| ECS Research Day Honorable Award | 2024 |
| Best Paper Award Nominee, ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) | 2022 |
| Syracuse University Ph.D. Fellowship | 2020, 2022 |
| Outstanding Graduates | 2019 |
| Distinguished Undergraduate Thesis | 2019 |
| National Scholarship | 2016 |
| Outstanding Student Scholarship (school-level) | 2015,2016,2017,2018 |