Ziyang Jiao

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EDUCATION

- **Syracuse University, New York** *Aug 2020 – June 2025 (expected)*
  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)

PUBLICATIONS AND TALKS

Ziyang Jiao, Jaeho Kim, Jongmoo Choi, and Bryan S. Kim. "paRAID: A Sustainable Storage Architecture with Heterogeneous SSDs." *Submitted to Anonymized Conference on Computer Systems, 2025 (Under review).*

Xiangqun Zhang, **Ziyang Jiao**, Farzana Rahman, and Bryan S. Kim. "Filling in the Missing Piece: Integrating Storage into CompOrg Courses." *Submitted to ASEE Annual Conference and Exposition, 2025 (Abstract accepted, full paper under review).*

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.*

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 (WiP), 2022.*

EXPERIENCE AND INTERNSHIP

- **Syracuse University** *May 2020 – Now*
  Research Assistant Syracuse, NY
  - Advisor: Prof. Bryan S. Kim
  - **All-flash array and sustainable systems**: optimizing system performance and storage sustainability by exploiting device heterogeneity from a larger SSD pool.
  - **Failure-resilient storage systems**: exploiting the tradeoffs among capacity, performance, and reliability (CPR) in SSDs for performance stability and aging-resilience.
  - **ML for storage and storage for ML**: (1) imbuing intelligence to the storage systems so that they can self-learn, self-configure, and self-manage. (2) designing a data loading system that optimizes cache partitioning and data sampling for the data processing pipeline.
  - **Next-generation storage stack with emerging devices**: exploring the design of a storage stack using FDP (Flexible Data Placement)/ZNS devices instead of traditional block devices.

- **Syracuse University** *Aug 2024 – Aug 2025*
  Teaching Assistant Syracuse, NY
  - Advisor: Prof. Bryan S. Kim
  - Course link: CIS 341 - Computer Organization & Programming Systems
  - Topics: Digital logic, data types and their representations, instruction set architecture, assembly language, program construction, CPU potpourri, memory hierarchy, privilege and security, input-output subsystems.

- **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)

SKILLS

Core: Storage Systems, ML for Storage and Storage for ML, RAID Systems, Flash-based storage, Operating Systems, Memory Systems
Languages: C, C++, Python, Javascript, HTML5, Node.js
File systems: in-place update FSs (ext4), log-structured FSs (f2fs), file system utilities (e2fsprogs, f2fs-tools)
Databases: Transactional & analytical databases based on SQL & NoSQL (MySQL, RocksDB, LevelDB, MongoDB)
Kernel & Profiling: kernel (BCC Tools, bpftrace), block I/O (blktrace, blkparse, btrecord, btreplay), performance (perf), iostat, NVMe
Virtualization platforms & Frameworks: QEMU, Docker, Kubernetes

ACADEMIC SERVICES

Shadow program committee, European Conference on Computer Systems (EuroSys)	2025
Artifact evaluation committee, USENIX Conference on File and Storage Technologies (FAST)	2024

HONORS AND AWARDS

ECS Research Day Honorable Award	2024
Best Paper Award, 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	2015,2016,2017,2018