Shawn (Wanxiang) Zhong

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EDUCATION

University of Wisconsin-Madison

Ph.D. in Computer Sciences — GPA: 3.97 — *Sept. 2020 - Aug 2026 (Est.)*

- Advisors: Andrea Arpaci-Dusseau and Remzi Arpaci-Dusseau
- Research Areas: Operating System, Kernel Extension, Filesystem, Persistent Memory

B.S. in Computer Sciences & Mathematics — GPA: 3.98 — *Sept. 2017 - June 2020*

- Competitive Programming: ACM-ICPC NCNA #7, #9, and #22 in 2019, 2018, and 2017

RESEARCH

SOSP '26 Don't Let AI Agents YOLO Your Files: Information and Control in Agent-Native Filesystems. *Paper*
Shawn Zhong, Junxuan Liao, Jing Liu, Mai Zheng, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau.

OSDI '26 kSTEP: Characterization and Deterministic Testing of Linux CPU Scheduler Bugs. *Paper* | *Code*
Tingjia Cao, Shawn Zhong, Caeden Whitaker, Ke Han, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau.

FAST '26 Cache-Centric Multi-Resource Allocation for Storage Services. *Paper* | *Code*
Chenhao Ye, Shawn Zhong, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau.

EuroSys '25 Revealing the Unstable Foundations of eBPF-Based Kernel Extensions. *Paper* | *Code* | *Dataset*
Shawn Zhong, Jing Liu, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau.

FAST '23 MadFS: Per-File Virtualization for Userspace Persistent Memory Filesystems. *Paper* | *Code*
Shawn Zhong, Chenhao Ye, Guanzhou Hu, Suyan Qu, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau, Michael Swift.

EXPERIENCE

Intern at Meta. Triton ML Compiler Team under PyTorch — *Menlo Park, CA* — *Summer 25*

- Optimized load balance for jagged kernel, improving production performance by up to 35% on AMD GPUs.
- Developed intra-thread-block GPU kernel profiling with MLIR ops for global timestamps measurement. *Code*
- Designed and implemented Triton support on Compiler Explorer for IR visualization and comparison. *Website* | *Code*

PROJECTS

Verus Explorer. An online interactive tool for verification and execution of Verus programs. *Website* | *Code*
NCCL-sharing. Optimize GPU computation and communication with efficient resource sharing. *Report* | *Code*
libfutex. A library for robust cross-process synchronization based on Linux futexes. *Code*
Jenn3D. A high-dimensional polytope visualization tool ported from C++ to WebAssembly. *Website* | *Code*
JsSpim. An online MIPS32 instruction set simulator written with JavaScript and WebAssembly. *Website* | *Code*
xv6 Filesystem Visualizer. An interactive tool for visualizing and validating xv6 filesystem images. *Website* | *Code*

COMMUNITY

Open Source Contributor of Triton, PyTorch, fmtlib, BCC, bpftime, Compiler Explorer, LLVM, pandas, Loop.
Artifact Evaluation Member for Systems Conferences: FAST 26, OSDI 25, SOSP 24, OSDI 24, ATC 24, FAST 24.
Shadow Program Committee Member for EuroSys 26.

SKILLS

General: Linux Kernel Development, Performance Analysis, Machine Learning Systems, Data Analytics
Programming Languages: C/C++, Python, Rust, Java, Dafny, SQL, JavaScript
Frameworks & Softwares: Triton, CUDA, eBPF, WebAssembly, PyTorch, LLVM/MLIR