

# SHAWN ZHONG

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## EDUCATION

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### University of Wisconsin-Madison

Ph.D. in Computer Sciences

GPA: 3.97 / 4.00

Madison, WI

Aug 2020 - Present

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

B.S. in Computer Sciences and Mathematics

GPA: 3.98 / 4.00

Aug 2017 - June 2020

- Dean's List: Fall 2017, Spring 2018, Fall 2018, and Spring 2019.
- Competitive Programming: Achieved rankings of #7, #9, and #22 in ACM-ICPC NCNA 2019, 2018, and 2017

## RESEARCH

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**Ongoing** Understanding Application Strategies for Ensuring Data Durability and Atomicity. [Shawn Zhong](#), et al.

**Ongoing** Understanding the Policy Decisions in the Linux Kernel Storage Stack. [Shawn Zhong](#), et al.

**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.

**EMNLP '20** PBoS: Probabilistic Bag-of-Subwords for Generalizing Word Embedding.

[Paper](#) | [Code](#)

Zhao Jinman, [Shawn Zhong](#), Xiaomin Zhang, and Yingyu Liang.

## PROJECTS

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**NCCL-sharing.** Optimize GPU computation and communication with efficient resource sharing.

[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](#)

## EXPERIENCE

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**Research Assistant** in ADvanced Systems Lab (ADSL)

Madison, WI

Summer 2022 - Present

**Teaching Assistant** for Advanced Operating Systems

Madison, WI

Fall 2024

**Teaching Assistant** for Computer Engineering & Database Systems

Madison, WI

Fall 2020 - Spring 2022

**Peer Mentor** for Operating Systems

Madison, WI

Fall 2019

- Wrote programming tutorials. Received the Golden Brick Award for excellence in peer mentoring.

**Software Engineer Intern** at DataChat, an AI data analytics startup

Madison, WI

Summer 2019

- Developed a rule-based recommendation system to suggest follow-up questions based on previous conversations.
- Optimized database backend to improve table statistics collection and CSV file ingestion.
- Implemented PDF report generation for conversations. Enhanced development experience with hot reloading.

## COMMUNITY

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**Artifact Evaluation Member** for Systems Conferences: SOSP '24, OSDI '24, ATC '24, FAST '24

**Open Source Contributor** of PyTorch, fntlib, Loop, BPF Compiler Collection, bpftime, LLVM, pandas, matplotlib

## SKILLS

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**General:** Kernel Development, Performance Analysis, Machine Learning Systems, Data Analytics, Verification

**Programming Languages:** C/C++, Python, Rust, Java, Dafny, SQL, Julia, JavaScript, Swift

**Frameworks & Softwares:** CUDA, eBPF, WebAssembly, PyTorch, Pandas, NumPy, React, Docker