

Xiao Liu

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Research Interest

I am generally interested in problems in the areas of computer architecture and systems. My current research concerns software support for non-volatile memory (NVRAM) architectures, persistent memory system design, and fault tolerance in storage system of data centers.

Education

University of California, San Diego Ph.D.student of Computer Engineering	La Jolla, CA Jan. 2018 - Now
University of California, Santa Cruz Ph.D.student of Computer Engineering GPA:3.86/4.0	Santa Cruz, CA Sept. 2015 - Dec. 2017
Zhejiang University B.E. of Electrical Engineering GPA:3.84/4	Hangzhou, China Aug. 2011 - Jun. 2015

Awards & Honor

Regents fellowship	2016
Second Prize, 7th National Science Contest on Energy & Emission Reduction	2014
Scholarship for excellence in research and innovation	2014
Second Prize, 13th Programming Contest of Zhejiang University	2013
Third-class scholarship for Outstanding student	2012
Third-class scholarship on Academic	2012

Publication

- Liu, X., Zhao, J., & Yi, Q. Using Memory-style Storage to Support Fault Tolerance in Data Centers, *USENIX Workshop on Cool Topics in Sustainable Data Centers (CoolDC)*,2016
- Liu, X., Jupudi B., Mehra P., & Zhao, J. Persistent Memory File System Characterization: A Hardware Perspective, *8th Annual Non-Volatile Memories Workshop (NVMW)*,2017

Projects

Fault-tolerant persistent memory

- Developed multiple mechanisms for supporting fault-tolerant non-volatile memory(NVM).

- Implemented the design with simulator.
- System level verification based on Linux kernel
- Performed experiments to show the benefits on the performances of storage system.

Workload characterization for persistent memory system

- Analyzed and simulated the performance of the benchmarks or microbenchmarks frequently used in NVM system testing.
- Performed simulation testing mainstream NVM system design(file systems or username space libraries) with real workloads.

Experience

Research Assistant Sept. 2015-Dec. 2017
Storage Systems Research Center (SSRC) at UC Santa Cruz, Santa Cruz, CA
Student Intern June. 2017-Sept. 2017
Center for Applied Scientific Computing (CASC) at Lawrence Livermore National Laboratory(LLNL),
Livermore, CA

Technical Skills

- **Programming Languages:** C/C++, Linux Shell, Python, Assembly, Matlab, Verilog, VHDL, Pascal
- **Tools:** Perf,VTune,Emacs,Git