

Shuwen Sun

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I am a software engineer and research scientist focuses on understanding and building reliable, scalable system. In my PhD work I adapted techniques from newer storage technologies to build fast and efficient distributed storage systems. My work also touches semantics and consistency guarantees of distributed systems. Prior to my current work, I have worked on research projects in datacenter networking and performance diagnosis for distributed systems.

Professional Experience

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| 10/13/2025
Present | - Research Scientist | <i>Meta, New York City, NY</i> |
| | • Performing research on building infrastructure for AI. | |
| 09/01/2018
10/01/2025 | - Graduate Research Assistant | <i>Northeastern University, Boston, MA</i> |
| | • Designed and implemented a highly-efficient and (single-key) linearizable object store, ZS-tore, that leverages ZNS SSDs to achieve high performance. | |
| | • Designed and implemented application network functions (TLS cert validator, transcoder, remote dependency resolution proxy) which offload user/application level functions to the network. | |
| 05/01/2023
08/04/2023 | - PhD Research & SWE Intern | <i>Google Global Networking, New York City, NY</i> |
| | • Research prototypes for the Google Global Networking team. | |
| 06/07/2022
08/30/2022 | - Research Intern | <i>ThousandEyes (Part of Cisco) Research, San Francisco, CA</i> |
| | • Performed on Internet measurement related to anomaly detection in HTTP timing. Part of the Internet Research team. | |
| 01/01/2018
07/01/2018 | - Staff Engineer | <i>Hariri Institute for Computing, Boston, MA</i> |
| | • Staff engineer within MOC working on tracing tools for Openstack and a resource management framework in production. | |

Education

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| 9/2018 – 10/2025 | Northeastern University, Boston, Massachusetts |
| | Ph.D. in Computer Science |
| | Thesis: <i>Towards an Efficient and Strongly-consistent Distributed Object Store</i> |
| | Advisor: Prof. Peter Desnoyers |
| 9/2015 – 5/2017 | Boston University, Boston, Massachusetts |
| | M.S. in Computer Science |
| 9/2011 – 5/2015 | Sun Yat-sen University, Guangzhou, China |
| | B.Eng. in Software Engineering |

Technologies and Languages

Programming Languages: C/C++, Rust, Python, Go, Bash

Async Programming: C++ (Boost.Asio, Boost.Beast), Rust (async/await, Tokio, futures)

Tools: SPDK, DPDK, SGX, eBPF, Docker, OpenTracing/OpenTelemetry

Networking: Kernel bypassing, NFV, RDMA, RoCE, Datacenter networking, SDN

Storage: NVMe-over-fabric, SPDK, SSD, Zoned NameSpace SSD

Systems: Distributed systems, End-to-end request tracing, Cloud computing

Relevant Courses

Operating Systems, Distributed Systems, Advanced Algorithms, Network Security, Computer Networks, Machine Learning

Research Interests

Distributed systems, storage systems, networked systems, and performance diagnosis.

Publication

C5. A Fast, Efficient, and Strongly-Consistent Object Store

Sun, Shuwen, Khor, Isaac, Shin, Ji-Yong, and Desnoyers, Peter.

16th ACM Symposium on Cloud Computing (SoCC'25). SoCC'25

C4. A case for IO efficiency as a research metric for storage systems

Sun, Shuwen, Khor, Isaac, Ahmadi, Sina, Ren, Xiang (Jenny), Shin, Ji-Yong, and Desnoyers, Peter.

Under submission

C3. Endpoint-defined In-Network Functions

Sun, Shuwen and Choffnes, David.

Under submission

C2. Toward Flexible Auditing for In-Network Functionality

Sun, Shuwen and Choffnes, David.

CoNEXT-SW '22

C1. FlexNet: Enabling Flexibility in Cloud Networks

Yu, Da, Mai, Luo, Sun, Shuwen, Krieger, Orran, and Fonseca, Rodrigo.

Under submission

References

Peter Desnoyers, Associate Professor

Northeastern University

✉ pjd@ccs.neu.edu

Ji-Yong Shin, Assistant Professor

Northeastern University

✉ j.shin@northeastern.edu

Orran Krieger, Research Professor

Boston University

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Vasilis Pappas, Tech Lead

Google Global Networking

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