Weihai Shen

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Education Background

Stony Brook University   **NY, USA**
Ph.D candidate in Computer Science   Aug. 2020 ∼ May 2026 (Expected)
Advisor: Shuai Mu
Research areas: Distributed systems; multi-core transactional systems; RDMA/DPDK networks

Arizona State University   **AZ, USA**
Master of Computer Science   Aug. 2018 ∼ May 2020
GPA: 3.89/4.0

Nanjing University of Posts and Telecommunications   **Nanjing, China**
Bachelor of Geographic Information System   July 2010 ∼ June 2014
GPA: 89.3/100

Publications

Mako: Speculative Distributed Transactions with Geo-Replication (OSDI'25)
Weihai Shen, Yang Cui, Siddhartha Sen, Sebastian Angel, and Shuai Mu
Geo-replicated storage   Fast networks   High performance

Rolis: a software approach to efficiently replicating multi-core transactions (Eurosys'22)
Weihai Shen, Ansh Khanna, Sebastian Angel, Siddhartha Sen, and Shuai Mu
Multi-core in-memory storage   Replication   High performance

DepFast: Orchestrating Code of Quorum Systems (USENIX ATC'22)
Xuhao Luo, Weihai Shen, Shuai Mu, and Tianyin Xu
Programming framework   Consensus protocols

Internship & full-time experiences

Google - Intern   Sunnyvale, CA
Software Engineer Intern, NetInfra Team   May 2024 ∼ Aug 2024
- ▷ Designed and implemented a 1:N networking multiplexing prototype in Libfabric to enable efficient communication between one endpoint and multiple shared QPs.
- ▷ Performed extensive RDMA isolation benchmarks with our RDMA-connected SmartNICs.

ByteDance (Tiktok) - Intern   Mountain View, CA
Summer Research Intern, Infrastructure System Lab   May 2021 ∼ Aug 2021
- ▷ Designed and implemented a prototype memory allocation and tracking engine for the next-generation HSAP database system, optimizing resource utilization and system performance.

ByteDance/Baidu/Ganji (acquired by 58.com)   Beijing, China
Software development & data engineer   July 2014 ∼ June 2018
- ▷ Developed an intelligent ad platform by integrating multiple ad engines, managing thousands of keywords to significantly enhance user growth. (Bytedance)
- ▷ Implemented a real-time big data analysis platform using Apache Storm, Apache Flink, Apache Spark, and HBase, delivering scalable, near-realtime statistical data to users. (Bytedance)
- ▷ Designed and implemented a robust data warehouse using Apache Hive, enabling continuous monitoring and optimization of long-term user retention rates. (Bytedance)
- ▷ Built a big data tool to analyze application performance; delivered software solutions in PHP for the application and systems according to specific needs. (Baidu)
- ▷ Enhanced website search engine optimization (SEO); developed PHP software solutions to meet diverse application and system needs. (Ganji)