Xuhao Luo

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Education

University of Illinois Urbana-Champaign	Aug. 2021 - Aug. 2026 (Anticipated)
Ph.D. Candidate in Computer Science	
University of California San Diego	Sep. 2019 - Mar. 2021
M.S. in Computer Science	
University of Science and Technology of China	Sep. 2015 - Jun. 2019
B.S. in Applied Physics	

Research Publication

- Shreesha G. Bhat, Tony Hong, **Xuhao Luo**, Jiyu Hu, Aishwarya Ganesan, Ramnatthan Alagappan, **Low End-to-End Latency atop a Speculative Shared Log with Fix-Ante Ordering** (*OSDI 2025*)

- **Xuhao Luo**, Shreesha G. Bhat*, Jiyu Hu*(*equal contribution), Ramnatthan Alagappan, Aishwarya Ganesan, **LazyLog: A New Shared Log Abstraction for Low-Latency Applications** (*SOSP 2024*) *Best Paper Award*

- **Xuhao Luo**, Ramnatthan Alagappan, Aishwarya Ganesan, **SplitFT: Fault Tolerance for Disaggregated Datacenters via Remote Memory Logging** (*EuroSys 2024*)

- **Xuhao Luo**, Weihai Shen, Shuai Mu, Tianyin Xu, **DepFast: Orchestrating Code of Quorum Systems** (*USENIX ATC 2022*)

- Zhiyuan Guo*, Yizhou Shan*(*co-first author), **Xuhao Luo**, Yutong Huang, Yiying Zhang, **Clio: A Hardware-Software Co-Designed Disaggregated Memory System** (*ASPLOS 2022*)

Experience

Amazon Web Service	May. 2024 - Aug. 2024
Applied Scientist Intern, Mentor: Prof. George Amvrosiadis, Visiting Scholar	*Seattle, WA, USA*

- Investigated and improved ShardStore (storage system used by AWS S3) reclamation, and built a tool to evaluate different reclamation policy.

Amazon Web Service	May. 2022 - Aug. 2022
Applied Scientist Intern, Mentor: Shen Li, Principle Engineer	*Seattle, WA, USA*

- Improved the performance and reliability of the volume metadata updating workflow for AWS S3 volume metadata cache service with Amazon Quantum Ledger Database (QLDB).

University of Illinois Urbana-Champaign	May. 2021 - Now
Research Assistant	*Urbana, IL, USA*

- *SkyLog*: Built a shared log abstraction for multicloud applications, with seamless reconfiguration and reduced egress cost.
- *LazyLog*: Built a new shared log system that offers low-latency append to latency-critical applications by lazily ordering log entries.
- *SplitFT*: Built a new fault-tolerant approach for storage-centric cloud applications by replicating WALs on remote nodes using RDMA.
- *DepFast*: Built a framework using C++ coroutine to implement and reason about fail-slow tolerant distributed systems in an easy and effective way.

Microsoft Research	Jun. 2020 - Sep. 2020
Research Intern	*Beijing, China*

- Designed and implemented a task scheduling and dispatching system for distributed machine learning using C++, and a CUDA-based high-performance inter-GPU communication channel for distributed ML.

University of California San Diego	Sep. 2019 - Dec. 2020
Research Assistant, advised by Prof. Yiying Zhang	*La Jolla, CA, USA*

- Implemented a hardware/software co-designed network stack on both FPGA and host server for disaggregated memory.

Agora.io	Jul. 2019 - Sep. 2019
Software Engineer Intern	*Shanghai, China*

- Participated in the development of CapSync, a distributed capability negotiation system.

Skills

Language	C/C++, Python, Go, Java, Rust, Haskell, OpenCL, Verilog
Tools/Framework	RDMA, TensorFlow, Docker, Zookeeper, LLVM, Google Test

Honors and Awards

- SOSP'24 Best Paper Award — Nov 2024
- SOSP'24 Student Travel Grant — Nov 2024
- EuroSys'24 Student Travel Grant — Apr 2024
- ASPLOS'22 Student Travel Grant — Feb 2022
- USTC Class of 2019 Outstanding Graduates — May 2019

Services

- EuroSys'26 Shadow PC
- OSDI'23 Artifact Evaluation Committee
- USENIX ATC'23 Artifact Evaluation Committee