Xuhao Luo

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Education

University of Illinois Urbana-Champaign   Aug. 2021 - Dec. 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 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*

· LazyLog: Built a new shared-log service that offers low-latency append to applications by lazily ordering log entries.

· SplitFT: Built a new fault-tolerant approach for storage-centric cloud applications by replicating WAL 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 task scheduling and dispatching system for distributed machine learning using C++.

· Designed and implemented 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 Linux server in C.

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