

Xuhao Luo

201 N Goodwin Ave, Urbana, IL, 61801
(217) 377-2021 ◊ xuhaol2@illinois.edu

Education

University of Illinois Urbana-Champaign Ph.D. Student in Computer Science	Aug, 2021 - Now
University of California San Diego M.S. in Computer Science, <i>GPA: 3.82/4.00</i>	Sep. 2019 - Mar. 2021
University of Science and Technology of China B.S. in Applied Physics	Sep. 2015 - Jun. 2019

Skills

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

Research Publication

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

Experience

University of Illinois Urbana-Champaign <i>Research Assistant</i>	May. 2021 - Now <i>Urbana, IL</i>
<ul style="list-style-type: none">· Building a framework for effectively implementing and verifying fail-slow fault-tolerant codes in distributed systems.· Implementing a light-weight user-space thread library with cooperative task scheduling using C++ Coroutine.	
Microsoft Research <i>Research Intern</i>	Jun. 2020 - Sep. 2020 <i>Beijing, China</i>
<ul style="list-style-type: none">· 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 within a large-scale GPU cluster.	
University of California San Diego <i>Research Assistant</i>	Sep. 2019 - Dec. 2020 <i>La Jolla, CA</i>
<ul style="list-style-type: none">· Worked on building FPGA-based disaggregated memory system.· Designed and implemented two network stacks on FPGA and host Linux server with C++ HLS and C: A <i>go-back-N</i> based reliable stack with connection management, and a RPC-semantic connection-less stack for improved scalability. Bypass kernel using libverb to achieve 10Gbps throughput and μs-level latency at rack scale.	
Agora.io <i>Software Engineer Intern</i>	Jul. 2019 - Sep. 2019 <i>Shanghai, China</i>
<ul style="list-style-type: none">· Participated in the development of CapSync, a distributed capability negotiation system for synchronizing media capability info between users, implemented with C++ and libevent.	

Projects

Distributed Messaging System <i>Project for CSE223, Distributed System</i>	Apr. 2020 - Jun. 2020
<ul style="list-style-type: none">· Built a distributed messaging system patterned on Kafka using Go. Provided messaging service via Append() and Get() APIs. Implemented <i>Topic</i> and <i>Partition</i> abstraction for replication management with Zookeeper.	
Fault-tolerant Distributed Storage System <i>Project for CSE224, Networked System</i>	Sep. 2019 - Dec. 2019
<ul style="list-style-type: none">· Implemented a cloud-based file storage system patterned on Dropbox. Used multiple servers for duplicated file storage. Achieved consistence and fault-tolerance mechanism using Raft consensus algorithm.	

Coursework

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| · CSE 224, Graduate Networked Systems | · CSE 223B, Distributed Systems |
| · CSE 232A, Graduate Database Systems | · CSE 230, Programming Languages |
| · CSE 221, Graduate Operating Systems | |