

# Xuhao Luo

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## Education

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

## Research Publication

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

## Experience

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<b>University of Illinois Urbana-Champaign</b> <i>Research Assistant, advised by Prof. Tianyin Xu</i>	May. 2021 - Now Urbana, IL
· Building a framework to implement and reason about fail-slow tolerant distributed systems in an easy and effective way. · Implementing a light-weight user-space thread library with cooperative task scheduling using <b>C++ Coroutine</b> .	
<b>Microsoft Research</b> <i>Research Intern</i>	Jun. 2020 - Sep. 2020 Beijing, China
· Designed and implemented task scheduling and dispatching system for distributed machine learning using <b>C++</b> . · Designed and implemented <b>CUDA</b> -based high-performance inter-GPU communication channel for distributed ML within a large-scale GPU cluster.	
<b>University of California San Diego</b> <i>Research Assistant, advised by Prof. Yiyang Zhang</i>	Sep. 2019 - Dec. 2020 La Jolla, CA
· Worked on building FPGA-based disaggregated memory system. · Designed and implemented two network stacks on FPGA and host Linux server with <b>C++ HLS</b> and <b>C</b> : 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 <b>libverb</b> to achieve 10Gbps throughput and $\mu$ s-level latency at rack scale.	
<b>Agora.io</b> <i>Software Engineer Intern</i>	Jul. 2019 - Sep. 2019 Shanghai, China
· Participated in the development of CapSync, a distributed capability negotiation system for synchronizing media capability info between users, implemented with <b>C++</b> and <b>libevent</b> .	

## Projects

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<b>Distributed Messaging System</b> <i>Project for CSE223, Distributed System</i>	Apr. 2020 - Jun. 2020
· Built a distributed messaging system patterned on Kafka using <b>Go</b> . Provided messaging service via <b>Append()</b> and <b>Get()</b> APIs. Implemented <i>Topic</i> and <i>Partition</i> abstraction for replication management with <b>Zookeeper</b> .	
<b>Fault-tolerant Distributed Storage System</b> <i>Project for CSE224, Networked System</i>	Sep. 2019 - Dec. 2019
· Implemented a cloud-based file storage system patterned on Dropbox. Used multiple servers for duplicated file storage. Achieved consistence and fault-tolerance mechanism using <b>Raft</b> consensus algorithm.	

## Skills

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

## 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 |                                  |