Chuanhan Li

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Education

University of California, Santa Cruz (UCSC) *CA, USA*
Phd student @ UCSC CSE **Sep. 2024 - now**

Huazhong University of Science and Technology (HUST) *Wuhan, China*
Master in Computer Application Technology **Sep. 2021 – Jul. 2024**

- **GPA:** 87.65/100

Central South University *Changsha, China*
Bachelor in Computer Science **Sep. 2017 – Jun. 2021**

- **GPA:** 87.81/100

Research Interest

I am interested in novel interconnection architectures (CXL, UALink) and their implications for computer performance, scalability, reliability, energy efficiency, and security.

Publications

[MICRO25] **Chuanhan Li**, Jishen Zhao, Yuanchao Xu, "Efficient Security Support for CXL Memory through Adaptive Incremental Offloaded (Re-)Encryption", the 58th IEEE/ACM International Symposium on Microarchitecture, 2025.

Research Projects

Data Serialization Optimization in RDMA Network **Feb. 2022 - Jun. 2022**

- Designed a serialization scheme that preserves in-memory object layout, eliminating pre-transmission copies.
- Cut serialization latency by 42% on microbenchmarks.

ZipGC: Compressed Heap in Managed Runtime atop Disaggregated memory **Feb. 2023 - now**

- Extended OpenJDK's ZGC to identify cold objects and apply base-delta compression.
- Achieved 2.5× bandwidth reduction with <7% runtime overhead on SPECjbb.

AIORE: Efficient Security Support for CXL Memory through Adaptive Incremental Offloaded (Re-)Encryption **Feb. 2023 - now**

- Adaptive memory encryption on CXL secure memory

Research Experience

Graduate Researcher - China Grid Computing Laboratory, HUST **Feb. 2021 - Jul. 2024**

- **Advisor:** Prof. Haikun Liu, Prof. Chencheng Ye

Research Assistant - Center for Research in Systems and Storage, UCSC **Sep. 2024 - now**

- **Advisor:** Prof. Yuanchao Xu

Skills

Programming Languages: C, C++, Java, Rust, Python, Shell
Skills: RDMA, Static Analysis, Performance Analysis, Script Programming, JVM hacking