Jiyu Hu

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Education

University of Illinois at Urbana-Champaign — Aug. 2023 – Present
Ph.D. in Computer Science — *Urbana, IL*

Carnegie Mellon University – School of Computer Science — Aug. 2021 – May 2023
Master of Computational Data Science — *Pittsburgh, PA*

University of Illinois at Urbana-Champaign — Aug. 2017 – May 2021
Bachelor of Science in Computer Engineering — *Urbana, IL*

Publications

Shreesha Bhat, Tony Hong, Xuhao Luo, Jiyu Hu, Aishwarya Ganesan, and Ramnatthan Alagappan. Low end-to-end latency atop a speculative shared log with fix-ante ordering. In *19th USENIX Symposium on Operating Systems Design and Implementation*, OSDI '25, pages 465–481. USENIX Association, 2025

Xuhao Luo, Shreesha Bhat*, Jiyu Hu*, Ramnatthan Alagappan, and Aishwarya Ganesan. Lazylog: A new shared log abstraction for low-latency applications. In *Proceedings of the ACM SIGOPS 30th Symposium on Operating Systems Principles*, SOSP '24, page 296–312, New York, NY, USA, 2024. Association for Computing Machinery. (* Equal contribution)

Jiyu Hu, Jack Kosaian, and K. V. Rashmi. Rethinking erasure-coding libraries in the age of optimized machine learning. In *Proceedings of the 16th ACM Workshop on Hot Topics in Storage and File Systems*, HotStorage '24, page 23–30, New York, NY, USA, 2024. Association for Computing Machinery

Rui Yang, Jiangran Wang, Jiyu Hu, Shichu Zhu, Yifei Li, and Indranil Gupta. Medley: A Membership Service for IoT Networks. *IEEE Transactions on Network and Service Management*, 19(3):2492–2505, 2022

Xueda Shen*, Jiyu Hu*, Yunqi Zhang, and Ian C. Quinn. B2-Coupon: Efficient and Non-intrusive Mobile Coupon Distribution using Dual Bloom Filter. In *2020 IEEE/ACM Symposium on Edge Computing (SEC)*, pages 358–363, 2020. (* Equal contribution)

Presentations

Rethinking Erasure Coding Libraries in the Age of Optimized Machine Learning — Jul. 2024
HotStorage '24 — *Santa Clara, CA*

B^2 Coupon — Nov. 2020
ACM SEC (workshop talk)

Services

OSDI '24, ATC '24, Artifact Evaluation Committee

Awards & Scholarships

Student Travel Grant
OSDI '25 *2025*

Best Paper Award (LazyLog)
SOSP '24 *2024*

Senior Design Instructor's Award (The Best Senior Design Award)
University of Illinois at Urbana-Champaign *2021*

Bradley A. Simons Memorial Scholarship
University of Illinois at Urbana-Champaign *2019*

Dean's List
University of Illinois at Urbana-Champaign *2017, 2018, 2019, 2020, 2021*

Research Experience

SpecLog Apr. 2024 – Dec. 2024
DASSL, University of Illinois at Urbana-Champaign *Urbana, IL*

- Design and implement a new shared log abstraction that significantly decreases e2e latency by speculation.

LazyLog Jan. 2024 – Jul. 2024
DASSL, University of Illinois at Urbana-Champaign *Urbana, IL*

- Design and implement a new shared log abstraction that significantly decreases append latency from state-of-the-art shared log implementations by delaying ordering the appended log entries.

TVM-EC Jan. 2022 – Jul. 2024
TheSys Lab, Carnegie Mellon University *Pittsburgh, PA*

- Propose a new way of implementing high-performance erasure-coding libraries via machine learning libraries, reducing the effort to design and maintain erasure coding libraries.

Medley Jan. 2020 – Jul. 2021
Distributed Protocols Research Group, University of Illinois at Urbana-Champaign *Urbana, IL*

- Develope and evaluate a new IoT failure detection protocol that is aware of the spatial locality of physical nodes so as to decrease the overall communication overhead in an unstable network environment.

B^2-Coupon Nov. 2019 – Nov. 2020
Prof. Dong Xuan's Research Group, The Ohio State University *Columbus, OH*

- Design a better coupon distribution protocol for mobile devices.

Industry Experience

USM, Exadata, Oracle Corporation May 2022 – Aug. 2022
Software Intern

- Worked on the kernel log aggregation and analysis framework of Oracle distributed database.

CUDA Math Library, NVIDIA Corporation June 2020 – Aug. 2020
Software Intern

- Analyzed the floating point error propagation in cuBLAS GEMM kernel.

Skills

Languages: C, C++, Rust, x86, Go, Java, Python, SystemVerilog
Tools & frameworks: RDMA, CXL, Git, Docker, Kubernetes, CUDA, Apache TVM