

# Jiyu Hu

201 N Goodwin Ave  
Urbana, IL, 61801

(217)904-5744  
jiyuhu2@illinois.edu

## Education

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**University of Illinois at Urbana-Champaign**  
*Ph.D. in Computer Science*

Aug. 2023 – Present  
Urbana, IL

**Carnegie Mellon University**  
*Master of Computational Data Science – School of Computer Science*

Aug. 2021 – May 2023  
Pittsburgh, PA

**University of Illinois at Urbana-Champaign**  
*Bachelor of Science in Computer Engineering*

Aug. 2017 – May 2021  
Urbana, IL

## Publications

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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 *Proceedings of the 19th USENIX Conference on Operating Systems Design and Implementation, OSDI'25*. USENIX Association, 2025. (\* To appear)

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

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

**B<sup>2</sup> Coupon** Nov. 2020  
*ACM SEC (workshop talk)*

## Services

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OSDI '24, Artifact Evaluation Committee  
ATC '24, Artifact Evaluation Committee

## Awards & Scholarships

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**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

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**C3PO** Apr. 2024 – Present  
*DASSL, University of Illinois at Urbana-Champaign* Urbana, IL

- Design a new object interface for rack-scale clusters that share a fast cache-coherent memory region.

**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

- Develop 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<sup>2</sup>-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

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**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**

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**Languages:** C, C++, Rust, x86, Go, Java, Python, SystemVerilog

**Tools & frameworks:** RDMA, CXL, Git, Docker, Kubernetes, CUDA, Apache TVM