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Yuhong Zhong

RESEARCH INTERESTS

Software systems, memory tiering, CXL, storage systems, eBPF

EDUCATION

2022-Present **Columbia University**, New York, NY
Ph.D., Computer Science
Advisor: Asaf Cidon

2019-2021 **Columbia University**, New York, NY
M.S., Computer Science

2015-2019 **Harbin Institute of Technology**, Harbin, China
B.Eng., Computer Science and Technology

PUBLICATIONS

1. **Memtrade: Marketplace for Disaggregated Memory Clouds**
   Hasan Al Maruf, **Yuhong Zhong**, Hongyi Wang, Mosharaf Chowdhury, Asaf Cidon, Carl Waldspurger
   SIGMETRICS 2023 (ACM International Conference on Measurement and Modeling of Computer Systems)
   Acceptance rate: 10%

2. **XRP: In-Kernel Storage Functions with eBPF**
   Yuhong Zhong, Haoyu Li, Yu Jian Wu, Ioannis Zarkadas, Jeffrey Tao, Evan Mesterhazy, Michael Makris, Junfeng Yang, Amy Tai, Ryan Stutsman, Asaf Cidon
   OSDI 2022 (USENIX Symposium on Operating Systems Design and Implementation)
   Acceptance rate: 19%
   Jay Lepreau Best Paper Award

3. **BPF for Storage: An Exokernel-Inspired Approach**
   Yuhong Zhong*, Hongyi Wang*, Yu Jian Wu*, Asaf Cidon, Ryan Stutsman, Amy Tai, Junfeng Yang (* equal contribution)
   HotOS 2021 (ACM Workshop on Hot Topics in Operating Systems)
   Acceptance rate: 25%

AWARDS

2023 **Memorable Paper Award Finalist**, Non-Volatile Memories Workshop (NVMW) 2023

2022 **Jay Lepreau Best Paper Award**, USENIX OSDI 2022

2019 **Outstanding Graduate Award**, Harbin Institute of Technology

TEACHING

2020 Fall **EECS E6897: Topics in Distributed Storage Systems**, Columbia University
Teaching Assistant
Instructor: Asaf Cidon
Graduate-level research seminar course (~10 students) on distributed systems. The topics include file systems, consistency and consensus, synchronization, replication, erasure coding, caching, memory disaggregation, deduplication, and systems + machine learning.

WORK EXPERIENCE

2023-Present **Microsoft** Redmond, WA
Software Design Engineer 1 (Part-Time Contractor, Hired Through Populus Group), Azure Systems Research and Azure Hardware Architecture
Mentors: Daniel S. Berger
Evaluating the performance of CXL memory devices and designing software systems for CXL.

2021-2022 **VMware** Palo Alto, CA
Member of Technical Staff, vSAN Group
Developed transaction and crash recovery support for SplinterDB, which was integrated into vSAN Express Storage Architecture.

2020 **TuSimple** Tucson, AZ
Software Engineer Intern, Sensor Software Team
Built visualization tools and new features for the data-processing pipeline of self-driving trucks.

TALKS

Limitations of PEBS for Tracking Main Memory Requests

05/2023 Open Compute Project (OCP), Composable Memory System

03/2023 Azure Systems Research Group (Host by Prof. Mark D. Hill), Microsoft

XRP: In-Kernel Storage Functions with eBPF

09/2023 Cornell Systems Seminar

03/2023 Microsoft Research Asia ACE Talk Series

03/2023 Non-Volatile Memory Workshop (NVMW) 2023

10/2022 Meta Systems Talk

09/2022 eBPF Summit 2022

07/2022 USENIX OSDI 2022

BPF for Storage: An Exokernel-Inspired Approach

06/2021 ACM HotOS 2021

ACADEMIC SERVICE

2023 **Reviewer**: ACM Transactions on Architecture and Code Optimization (TACO)

MENTORING

2023 **Ryan Wee**, Columbia University

2023 **Phoebe Lu**, Columbia University

2023 **Helen Chu**, Columbia University

2022-2023 **Shruti Verma**, Columbia University (Now: M.S. student in CS at Stanford University)

OUTREACH

2023-Present **Co-Organizer**: Students @ Systems

2023-Present **Co-Organizer**: Queers in STEM (*q*STEM) at Columbia University

2022-Present **Reviewer**: Pre-Application Review Program for PhD Applicants (PAR), Columbia University