SHEAN KIM

(Sieun Kim)
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INTEREST

Compute Express Link(CXL), Compression, Tiered Memory System, File System, Key-Value Store

EDUCATION

Pusan National University (PNU) *Mar 2014 - Feb 2020*
B.S. in Computer Science & Engineering

Ulsan National Institute of Science and Technology (UNIST) *Mar 2020 - Aug 2022*
M.S. in Computer Science

Ulsan National Institute of Science and Technology (UNIST) *Aug 2022 - Dec 2022*
Ph.D. in Computer Science (dropped out to attend the VT PhD. program)

Virginia Polytechnic Institute and State University (VT) *Jan 2023 - Present*
Ph.D. in Computer Science

EXPERIENCE

NECSST Lab, UNIST **Nov 2019 - Dec 2022**
M.S Student & Ph.D Candidate Student ***Ulsan, Korea***

- **Advisor: Sam H. Noh**
- **Operating system re-design for persistent memory deployed systems**
- **Efficient file system design and implementation for persistent memory**
- **Tiered memory system design and implementation using DRAM and persistent memory**
- **MFR: Persistent Cache for Efficient Metadata Management in an LSM-based KV Store (Master's thesis)**

NECSST Lab, VT **Jan 2023 - Present**
Ph.D Candidate Student ***Virginia, US***

- **Advisor: Sam H. Noh**
- **OS re-design for Storage Stack using Compression**
- **OS re-design for Tiered Memory System using DRAM and CXL-DRAM**
- **Efficient utilization of CXL-DRAM for LSM KV Store**

COURSE PROJECTS

HiMEM: A efficient hybrid PM and DRAM main memory system in Cloud Computing
2020 Spring, Advanced Cloud Computing

Lighthouse: Efficient Distributed In-memory KV with Heterogeneous CPU for Real-world Workload
2020 Fall, Advanced Network

FitCache: PM optimized cache system
2020 Fall, Advanced Computer Architecture

Nylon: Efficient Scheduler for Heterogeneous Storage
2021 Spring, Advanced Operating System

Okapi: Efficient Memory Offloading for LSM-based KV Store Using CXL-DRAM
2023 Spring, Advanced Topics in Operating System

PROJECTS

Development of Next-Generation Computing Technology for Hyper-Composable Data Center
Funded by Ministry of Science and ICT (MSIT) ***July 2021 - Dec 2022***

Efficient File System for Disaggregated Heterogeneous Storage Systems
Funded by SK Hynix ***Sep 2021 - Aug 2022***

TECHNICAL STRENGTHS

Computer Languages	**C, C++, Python, Java, Shell script**
Frameworks	**Linux**

PUBLICATIONS

Hyunsub Song, Shean Kim, J. Hyun Kim, Ethan J. H. Park and Sam H. Noh. First Responder: Persistent Memory Simultaneously as High Performance Buffer Cache and Storage. In Proceedings of the USENIX Annual Technical Conference (ATC), 2021.

Shean Kim, Hyun-sub Song, Sung-hwan Kim, Dong-ha Yoon and Sam. H. Noh. B-RAID: RAID System for Next-Generation Storage Media. Instisute of Embedded Engineering of Korea Fall Conference, 2022.