Juno Kim

PhD Student in Computer Science
Nationality: Korean
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Research Interests

I am generally interested in building scalable and reliable systems by leveraging emerging non-volatile memory technologies. My current research focuses on the performance analysis and optimizations of file systems and applications that are built on byte-addressable, high-performance Non-Volatile Main Memories (NVMM). I am also interested in building distributed storage systems.

Education

Ph.D. student, Computer Science, University of California, San Diego — 2017 - Present
Advised by Prof. Steven Swanson.

B.S., ECE, Seoul National University — Feb 2012
Overall GPA: 4.04/4.3 *(honors)*

Publications

Sub-Zero: Avoiding Data Movement in Persistent Main Memory Storage Systems. (submitted to ATC 2019).
Juno Kim, Yun Joon Soh, and Steven Swanson.

Finding and Fixing Performance Pathologies in Persistent Memory Software Stacks. ASPLOS 2019 (to appear).
Jian Xu*, **Juno Kim***, Amirsaman Memaripour, and Steven Swanson. (* denotes equal contribution.)

The FuzzyLog: A Partially Ordered Shared Log. OSDI 2018.
Joshua Lockerman, Jose Faleiro, **Juno Kim**, Soham Sankaran, Daniel Abadi, James Aspnes, Siddhartha Sen, and Mahesh Balakrishnan.

Relevant Experience

Graduate Researcher, University of California, San Diego — Sep 2017 - Present

Topic: Non-Volatile Main Memory file systems and applications.
At UCSD, I am exploring potential ways for legacy applications (e.g., databases, key-value stores) to maximize their performances on Non-Volatile Main Memory (NVMM) file systems.

Graduate Researcher, Yale University — Aug 2016 - May 2017

Topic: Partially ordered distributed storage system.
Shared log approach for building distributed storage systems has suffered scalability bottleneck by a centralized totally-ordered log. This work explored a new shared log design that exposes partial order to the programmers.

Software Engineer, SAP Labs Korea — Dec 2011 - July 2014

Topic: Main-memory database system SAP HANA.
In contrast to disk (or SSD) based database systems, main-memory database provides high performance by keeping entire data in fast, volatile memory. I worked on database metadata access optimizations in single and distributed settings for customer-ready database products.

Programming Skills

C/C++, Python, Java, Shell, Ocaml.

Languages

English, Japanese: Proficient. Korean: Native.