Joontaek Oh

Ph.D. candidate at Department of Electrical Engineering, KAIST, Daejeon, Korea

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RESEARCH INTEREST

Operating System, Linux kernel, Filesystem, EXT4, F2FS, XFS, Journaling, Log-structured Filesystem, Storage, SSD, Database systems, High-Performance storage system, Manycore scalability

EDUCATION

Korea Advanced Institute of Science and Technologies (KAIST)   Daejeon, Korea
Ph.D. candidate, Department of Electrical Engineering   *Mar. 2020 – Present*

Hanyang University   Seoul, Korea
Ph.D student, Department of Computer Software   *Sep. 2018 – Feb. 2020*

Hanyang University   Seoul, Korea
MS, Department of Computer Software   *Mar. 2016 – Aug. 2018*

The Korean Academic Credit Bank System   Seoul, Korea
BS, Department of Information Security Engineering   *Mar. 2013 – Aug. 2015*

PUBLICATIONS

Conferences

- [**USENIX FAST '23**] Joontaek Oh, Seung Won Yoo, Hojin Nam, Changwoo Min and Youjip Won, "CJFS : Concurrent Journaling for Better Scalability", In Proc. of USENIX Conference on File and Storage Technologies (FAST) 2023, Feb, 20-23, 2022
- [**USENIX ATC '22**] Juwon Kim, Minsu Jang, Danish Muhammad Teeshen, Joontaek Oh, and Youjip Won "IPLFS: Log-Structured File System without Garbage Collection", In Proc. of USENIX Annual Technical Conference (ATC) 2022, July. 11-13, 2022
- [**ACM SYSTOR '22**] Seung Won Yoo, Joontaek Oh, and Youjip Won "O-AFA: Order Preserving All Flash Array", in Proc. of The ACM International Systems and Storage Conference (SYSTOR), Haifa, Israel, June. 13-15, 2022
- [**USENIX FAST '22**] Dohyun Kim, Kwangwon Min, Joontaek Oh, and Youjip Won "ScaleXFS: Getting scalability of XFS back on the ring", In Proc. of USENIX Conference on File and Storage Technologies (FAST) 2022, Feb, 22-24, 2022
- [**USENIX FAST '22**] Joontaek Oh, Sion Ji, Yongjin Kim, and Youjip Won, "exF2FS: Transaction Support in Log-Structured Filesystem", In Proc. of USENIX Conference on File and Storage Technologies (FAST) 2022, Feb, 22-24, 2022
- [**ICISS '19**] Myeongseon Kim, Joontaek Oh, Youjip won, "Barrier enabled QEMU", In Proc. of ICISS 2019, Tokyo, Japan, Mar. 2019
- [**USENIX FAST '18**] Youjip Won, Jaemin Jung, Gyeongyeol Choi, Joontaek Oh, Seongbae Son, Jooyoung Hwang, Sangyeun Cho "Barrier Enabled IO Stack for Flash Storage", in proc. of USENIX Conference on File and Storage Technologies (FAST), Oakland, CA, USA, Feb. 12-15, 2018 (Awarded Best Paper)

Journals

- [**ACM TOS**] Youjip Won, Joontaek Oh, Jaemin Jung, Gyeongyeol Choi, Seongbae Son, Jooyoung Hwang, Sangyeun Cho "Bringing Order to Chaos: Barrier-Enabled I/O Stack for Flash Storage", ACM Transactions on Storage (TOS)
- [**ACM TOS**] Jinsoo Yoo, Joontaek Oh, Seongjin Lee, Youjip Won, Jin-Yong Ha, Jongsung Lee, Junseok Shim, "OrcFS: Orchestrated File System for Flash Storage", ACM Transactions on Storage (TOS), Vol. 14, Issue 2, Apr, 2018

Posters and Workshops

- [**IEEE NVMSA '18**] Joontaek Oh, and Youjip Won. "Embedded DBMS Design for In-Vehicle Information Management." 2018 IEEE 7th Non-Volatile Memory Systems and Applications Symposium (NVMSA). IEEE, 2018.

Experience

TA, Programming Structure for Electrical Engineering (EE 209)	Mar. 2021 – June 2021
Korea Advanced Institute of Science and Technologies (KAIST)	*Daejeon, Korea*
TA, Introduction to Operating Systems (EE 415)	Sep. 2020 – Dec. 2020
Korea Advanced Institute of Science and Technologies (KAIST)	*Daejeon, Korea*
TA, Commissioned Education of IO Subsystem	July 2020 – July 2020
Samsung Advanced Technology Training Institute	*Suwon-si, Korea*
TA, Unix Kernel Design (EE 488)	Mar. 2020 – June 2020
Korea Advanced Institute of Science and Technologies (KAIST)	*Daejeon, Korea*
TA, Introduction to Operating Systems (EE 415)	Sep. 2019 – Dec. 2019
Korea Advanced Institute of Science and Technologies (KAIST)	*Daejeon, Korea*
TA, Commissioned Education of IO Subsystem	June 2019 – June 2019
Samsung Advanced Technology Training Institute	*Suwon-si, Korea*
TA, Unix Kernel Design (EE 488)	Mar. 2019 – June 2019
Korea Advanced Institute of Science and Technologies (KAIST)	*Daejeon, Korea*
TA, System Programming (CSE 4009)	Sep. 2018 – Dec. 2018
Hanyang University	*Seoul, Korea*
TA, Commissioned Education of IO Subsystem	Aug. 2018 – Aug. 2018
Samsung Advanced Technology Training Institute	*Suwon-si, Korea*
TA, Operating System (ELE 3021)	Mar. 2018 – June 2018
Hanyang University	*Seoul, Korea*
TA, System Programming (CSE 4009)	Sep. 2017 – Dec. 2017
Hanyang University	*Seoul, Korea*
TA, Operating Systems & System Programming (ITE 2032)	Sep. 2016 – Dec. 2016
Hanyang University	*Seoul, Korea*
TA, Commissioned Education of Operating System	Aug. 2016 – Aug. 2016
Samsung Electronics	*Suwon-si, Korea*
TA, Introduction to Operating System (ELE 3021)	Mar. 2016 – June 2016
Hanyang University	*Seoul, Korea*

Projects

High-Performance Exabyte Storage Systems	Samsung Electronics	May 2022 – May 2024
SNU-SKH Solution Research Center	SK Hynix	Sep. 2019 – Aug. 2023
Future Scalable OS	IITP	June 2018 – May 2023
Scalable IO Stack for future storage system	NRF	June 2017 – Mar. 2020
System Software for Byte Addressable NVM	KEIT/MOTIE	Mar. 2016 – May 2017

Technical Skills

Languages: C/C++, Python, SQL (MySQL, SQLite), R
Developer Tools: gcc/g++, gdb, Git, QEMU, gnuplot, vim, Emacs