

# Wenjing Jin

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## Education

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- 2017 – present      **Seoul National University**  
Ph.D. in Computer Science and Engineering.
- 2015 – 2017        **Sungkyunkwan University**  
M.S. in Electrical and Computer Engineering.
- 2009 – 2013        **Yanbian University, China**  
B.S. in Electronic Communication Engineering.

## Research Area

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- Memory System      Memory management unit (MMU), Linux kernel memory management, DRAM, CXL disaggregated memory, Power management, RAS features.
- Others                Solid-state drive (SSD), RISC-V, Linux kernel optimization.

## Research Publications

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- 2023    **Wenjing Jin**, Wonsuk Jang, Haneul Park, Jongsung Lee, Soosung Kim, and Jae W. Lee, "DRAM Translation Layer: Software-Transparent DRAM Power Savings for Disaggregated Memory", in *Proceedings of the 50th Annual International Symposium on Computer Architecture (ISCA)*, Orlando, Florida, June 2023.
- 2020    Gyusun Lee\*, **Wenjing Jin**\*, Wonsuk Song, Jeonghun Gong, Jonghyun Bae, Tae Jun Ham, Jae W. Lee, Jinkyu Jeong, "A Case for Hardware-based Demand Paging", in *ACM/IEEE 47th Annual International Symposium on Computer Architecture (ISCA)*, Valencia, Spain, May 2020. (\* **co-first author**)
- 2019    Jonghyun Bae, Hakbeom Jang, Jeonghun Gong, **Wenjing Jin**, Shine Kim, Jaeyoung Jang, Tae Jun Ham, Jinkyu Jeong, Jae W. Lee, "SSDStreamer: Specializing I/O Stack for Large-Scale Machine Learning", in *IEEE Micro*, September/October 2019.
- 2019    Shine Kim, Jonghyun Bae, Hakbeom Jang, **Wenjing Jin**, Jeonghun Gong, Seungyeon Lee, Tae Jun Ham, and Jae W. Lee, "Practical Erase Suspension for Modern Low-latency SSDs", in *USENIX Annual Technical Conference (ATC)*, Seattle, Washington, July 2019.
- 2017    Jonghyun Bae, Hakbeom Jang, **Wenjing Jin**, Jun Heo, Jaeyoung Jang, Joo-Young Hwang, Sangyeun Cho, and Lee, Jae W. Lee, "Jointly Optimizing Task Granularity and Concurrency for In-memory Mapreduce Frameworks", in *IEEE International Conference on Big Data (BigData)*, Boston, MA, December 2017.
- 2016    Jonghyun Bae, Sangoh Jeong, **Wenjing Jin**, and Jae W. Lee, "ggplot2.SparkR: Rebooting ggplot2 for Scalable Big Data Visualization", in *Spark Summit East*, New York City, New York, February, 2016.

## Research Projects

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- 2021-2022      **Prototyping hardware-based demand paging.**
- Based on the research paper: [ISCA'20] "A Case for Hardware-based Demand Paging".
  - Implemented hardware-based demand paging using FPGA on the RISC-V Rocket core
  - TSMC 40nm GP tape-out.
- 2015      **ggplot2.sparkR package for Apache Spark.**
- ggplot2.sparkR is an R package for scalable visualization of big data represented in Apache Spark DataFrame.
  - Web site: <http://papl-skku.github.io/ggplot2.SparkR/>

## Invited Talks

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- 2023      "DRAM Translation Layer: Software-Transparent DRAM Power Savings for Disaggregated Memory." The 2023<sup>2nd</sup> SNU-Samsung CXL/UCIe Workshop. Dec 7.

## Honors and Awards

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- 2017-2018      **SNU Global Scholarship**, Seoul National University.
- 2015-2016      **International Student Scholarship**, Sungkyunkwan University.
- 2013      **President's Award for Academic Excellence**, Yanbian University.
- 2011-2013      **Scranton Women's full scholarship**, Scranton Women's Leadership Center, Korea.
- 2011-2012      **Model Student of Academic Records**, Yanbian University.

## Skills

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- Languages      Reading, writing and speaking competencies for English, Mandarin Chinese, and Korean.
- Coding      Java, Scala, C, Verilog, Chisel, R, Shell,  $\LaTeX$
- Misc.      Linux kernel optimization, experience in using simulators like Gem5, ZSim, DRAMSim, and Ramulator, FPGA, RISC-V.