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| **Junhyeok Park** | | Computer System Researcher |
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| 35, Baekbeom-ro, Mapo-gu, Seoul, Republic of Korea, 04107 Contact: [junttang@sogang.ac.kr](mailto:junttang@sogang.ac.kr) / [LinkedIn](https://www.linkedin.com/in/junhyeok-park-618666290/) / [instagram](https://www.instagram.com/hyeok_travel/) Web: [junttang.github.io](https://junttang.github.io/) / [Github](https://github.com/junttang) / [hyeok’s log](https://velog.io/@junttang) | | |
| Profile | **HELLO WORLD**  Now I’m a Master’s student in CSE at Sogang University, and a research assistant in DISCOS Laboratory. My goal is to become an awesome system researcher who makes the world convenient! | |  |
| Education | **SOGANG UNIVERSITY**  M.S in [Computer Science and Engineering](https://cs.sogang.ac.kr/cs/index_new.html) (2024.03-present)  🡪 Advisor: [Prof. Youngjae Kim](https://sites.google.com/site/youkim/home)  **SOGANG UNIVERSITY**  B.S in [Computer Science and Engineering](https://cs.sogang.ac.kr/cs/index_new.html) (2024.02)  🡪 CGPA: 4.15/4.50 (Magna Cum Laude, 5th out of 69) | |  |
| WORK EXPERIENCE | **RESEARCH ASSISTANT,** [**DISCOS**](http://discos.sogang.ac.kr/) **Laboratory**,  Sogang University, Seoul (2023.01-present) | |  |
| Publication | **ByteExpress: A High-Performance and Traffic-Efficient Inline Transfer of Small Payloads over NVMe**(**J.Park**, J.Lee, Y.Kim) [ACM HotStorage '25] *(pdf) (talk)*  **KVAccel: A Novel Write Accelerator for LSM-Tree-Based KV Stores with Host-SSD Collaboration**(K.Kim, H.Chung, S.Ahn, **J.Park**, S.Jamil, H.Byun, M.Lee, J.Choi, Y.Kim)[IEEE IPDPS '25] *(pdf) (talk)*  **Maximizing Interconnect Bandwidth and Efficiency in NVMe-Based Key-Value SSDs with Fine-Grained Value Transfer**(**J.Park**, C.-G.Lee, S.Hwang, S.-J.Cha, W.Chung, Y.Kim) [IEEE Micro '25] *(*[*pdf*](https://doi.org/10.1109/mm.2025.3572475)*)*  **Improving SQL Query Execution of Distributed Query Engines on Object-Based Computational Storage through Multi-Layered Offloading** (S.Hwang, **J.Park**, J.Ryu, J.Park, J.Lee, J.Noh, S.Yang, W.Chung, Y.Kim) [PDSW '24] *(*[*pdf*](https://junttang.github.io/assets/pdsw24_ocs_wip_paper.pdf)*) (*[*talk*](https://junttang.github.io/assets/pdsw24_ocs_wip_talk.pdf)*)*  **BandSlim: A Novel Bandwidth and Space-Efficient KV-SSD with an Escape-from-Block Approach** (**J.Park**, C.-G.Lee, S.Hwang, S.Yang, J.Noh, W.Chung, J.Lee, Y.Kim)[ICPP '24] *(*[*pdf*](https://doi.org/10.1145/3673038.3673064)*) (*[*talk*](https://junttang.github.io/assets/icpp24_bandslim_talk.pdf)*)*  **OctoFAS: A Two-Level Fair Scheduler that Increases Fairness in Network-Based Key-Value Storage** (Y.Park, **J.Park**, J.Park, A.Khan, K.Kim, S.-S.Park, Y.Kim) [Electronics '24] *(*[*pdf*](https://doi.org/10.3390/electronics13030619)*)*  **OctoKV: An Agile Network-based Key-Value Storage System with Robust Load Orchestration** (Y.Park, **J.Park**, A.Khan, J.Park, C.Lee, W.Chung, Y.Kim) [MASCOTS '23] *(*[*pdf*](https://doi.org/10.1109/MASCOTS59514.2023.10387663)*) (*[*talk*](https://junttang.github.io/assets/mascots23_octokv_talk.pdf)*)* | |  |
| PROJEct | **SK Hynix & Los Alamos National Laboratory. *Object-based Computational Storage for Accelerating Data Analytics*** (2024.01-present) *(*[*sc23*](https://sc23.supercomputing.org/proceedings/exhibitor_forum/exhibitor_forum_pages/exforum116.html)*) (*[*fms24*](https://files.futurememorystorage.com/proceedings/2024/20240806_COMP-102-1_Chung_Zheng.pdf)*) (*[*sc24*](https://sc24.supercomputing.org/proceedings/exhibitor_forum/exhibitor_forum_pages/exforum107.html)*) (*[*ces25*](https://www.linkedin.com/posts/skhynix-america-inc_ces-lanl-aia-activity-7282884817057128449-BF6H?utm_source=share&utm_medium=member_desktop)*)*  **Capstone Design Project. *TravelPT: ChatGPT-based Travel Guide Application*** (2023.03-2023.06) *(*[*poster*](https://junttang.github.io/assets/travelpt_poster.pdf)*)* | |  |
| HONOR +  AWARD | **Received a Graduate Scholarship from SK hynix Memory Systems Research** (2024.06)  **Albatross Fellowship upon the admission to the Sogang University Graduate School** (2024.01)  **Best Excellence Award at the 2023-1 Sogang Convergence Technology Competition**(2023.06) | |  |
| TEACHING + TALK | **Designed and developed new coursework for Embedded Systems Software (CSE4116) at Sogang University,** covering the kernel I/O stack, SSD architecture, NVMe protocol, PCIe interconnect, and SSD firmware development on a Xilinx FPGA-based Cosmos+ OpenSSD board (2025.03–present)  **Optimizing NVMe-Based Key-Value Interfaces and Leveraging KVSSDs: A Comprehensive Study** (Special Seminar at Soongsil University, presented by Prof. Youngjae Kim, 2025.04) *(pdf)*  **State of the Key-Value Computational Solid State Drive** (Advanced Database System, Sogang University Graduate School, 2024.04) *(*[*pdf*](https://junttang.github.io/assets/kv_csd.pdf)*)*  **TA Experience (Sogang University):** Computer Science and Engineering Laboratory II (CSE3016-01, Spring 2025), Operating Systems (CSE4070-01, Fall 2024), Database Systems (CSE4110-02, Spring 2024) | |  |
| SKILL + Interest | **Tool:** Vim, Git, C, C++, Python, Go, Scala, NVMe, SPDK, Xilinx SDK, AWS SDK, DOCA, gRPC, Spark, DuckDB, RocksDB, Arrow, Parquet, Substrait IR, Photoshop, draw.io, and etc  **Research Interest:** Next-Generation Storage and Memory Devices, File and Storage Systems, Heterogeneous Computing, Database Management, Data Analytics Platforms, and etc | |  |
| Language | **KOREAN:** fluent (native) **ENGLISH:** advanced | |