[전문연구요원 신규 편입 희망]

# Jiun **Jeong**

M.S. Candidate in Computer Science

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*I received a Master's degree in Computer Science at Yonsei University. My research focused on concurrent data structures for persistent memory. Specifically, I worked on the design and testing of the persistent, batch-based, lock-free queue for Intel Optane memory. My research involved developing scalable and efficient non-blocking data structures, ensuring persistence guarantees, devising safe memory reclamation schemes tailored for these data structures, and designing recovery mechanisms to maintain data integrity and consistency in the event of system failures.*

## Education

### Yonsei University

*Republic of Korea*

M.S. in Computer Science — *Mar. 2022 - Feb. 2025*

- Advisor: Prof. Bernd Burgstaller
- Embedded Systems Languages and Compilers (ELC) Lab
- Thesis: Safe Memory Reclamation and Full-System Crash Recovery for Persistent Lock-Free Batch Queue on Non-Volatile Memory
- GPA: 4.27/4.3

### Yonsei University

*Republic of Korea*

B.S. in Computer Science — *Mar. 2017 - Feb. 2022*

- Overall GPA: 3.53/4.3, Major GPA: 3.92/4.3

## Experience

### Gaudio Lab, Inc.

*Republic of Korea*

AI SDK Software Engineer — *Feb. 2025 - Apr. 2025*

- Wrote unit and regression tests to validate SDK APIs and detect behavioral changes across versions
- Built the C-based audio SDK into WebAssembly using emsdk and integrated it with AudioWorklet for browser-based audio processing

### ELC Lab at Yonsei University

*Republic of Korea*

Undergraduate Research Intern Supervised by Prof. Bernd Burgstaller — *Jan. 2020 - Feb. 2022*

- Profiling techniques for streaming frameworks in the cloud
- Heterogeneous memory architectures
- Testing and debugging support for Ethereum smart contracts at scale

## Publications

### International Journals

Comprehensive Design Space Exploration for Graph Neural Network Aggregation on GPUs
Hyunwoo Nam, Jay Hwan Lee, Shinhyung Yang, Yeonsoo Kim, Jiun Jeong, Jeonggeun Kim, Bernd Burgstaller
*IEEE Computer Architecture Letters* 24.1 (Jan. 2025) pp. 45–48. 2025
DOI: 10.1109/LCA.2025.3539371

### Preprints

Cloudprofiler: TSC-Based Inter-Node Profiling and High-Throughput Data Ingestion for Cloud Streaming Workloads
Shinhyung Yang, Jiun Jeong, Bernhard Scholz, Bernd Burgstaller
arXiv preprint, arXiv:2205.09325, 2023
DOI: https://doi.org/10.48550/arXiv.2205.09325

### Domestic Conferences

Scalable Off-The-Chain Testing of Ethereum Smart Contracts on a Cluster of Workstations
Jiun Jeong, Yeonsoo Kim, Seongho Jeong, Bernd Burgstaller
*Proceedings of the Korea Computer Congress 2024 (KCC 2024)*, pp. 1624–1626, June 26-28, 2024, ICC Jeju, Jeju Island, Republic of Korea
URL: https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE11862288

## Projects

**Smart Near-far Memory Architecture for Data-intensive Workloads** — *Republic of Korea*

Samsung DS Division through the Yonsei-Samsung Semiconductor Research Center (YSSRC) — *Sep. 2020 - Present*

**Application and Toolchain Support for Processing-in-memory (PIM)** — *Republic of Korea*

Institute of Information & Communications Technology Planning & Evaluation (IITP) — *Apr. 2021 - Dec. 2023*

**An Exa-scale Big Data Analysis Platform for Programmer Productivity and Performance on Clouds of Heterogeneous Multicore** — *Republic of Korea*

National Research Foundation of Korea (NRF) — *Jan. 2020 - Oct. 2020*

## Patents

**Apparatus for Optimizing Code for Utilization of Process-In-Memory** — *Republic of Korea*

Bernd Burgstaller, Hyunmo Sung, Seongho Jeong, Jay Hwan Lee, Jiun Jeong, and Shinhyung Yang — *Nov. 2023*

- Korean Patent Application Number: 10-2023-0169862
- DOI: https://doi.org/10.8080/1020230169862

## Awards

**Graduate Student Research Assistant Scholarship** — *Republic of Korea*

Department of Computer Science, Yonsei University — *Spring 2022 - Fall 2023*

- Awarded based on a GPA of 4.13/4.3 in CSI undergraduate courses
- Full scholarship covering four semesters

## Teaching

**[CSI4104-01] Compiler Design** — *Republic of Korea*

Teaching Assistant — *Fall 2023*

**[CCO1100-{01, 02, 03}] Computer Programming** — *Republic of Korea*

Teaching Assistant — *Spring 2023*

**[CSI4104-01] Compiler Design** — *Republic of Korea*

Teaching Assistant — *Fall 2022*

**[CAC1100-01] Computer Programming** — *Republic of Korea*

Teaching Assistant — *Spring 2022*

## Language Proficiency

**TOEIC Speaking: 160 / 200, Advanced Low (AL)** — *Republic of Korea*

Certificate Expiration Date: 2027/02/16 — *Feb. 2025*

**TOEIC: 955 / 990** — *Republic of Korea*

Certificate Expiration Date: 2027/02/15 — *Feb. 2025*

- Listening Comprehension: 480 / 495
- Reading Comprehension: 475 / 495

**OPIc: Advanced Low (AL)** — *Republic of Korea*

Certificate Expiration Date: 2026/09/04 — *Sep. 2024*

- Highest score for OPIc