



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

M.S. IN COMPUTER SCIENCE

Republic of Korea

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
- Presentation Slides
- GPA: 4.27/4.3

Yonsei University

B.S. IN COMPUTER SCIENCE

Republic of Korea

Mar. 2017 - Feb. 2022

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

Experience

Gaudio Lab, Inc.

AI SDK SOFTWARE ENGINEER (INTERNSHIP)

Republic of Korea

Feb. 2025 - Apr. 2025

- Wrote unit and regression tests to validate SDK APIs
- Built the C-based audio SDK into WebAssembly and integrated it with AudioWorklet for browser-based audio processing

ELC Lab at Yonsei University

UNDERGRADUATE RESEARCH INTERN SUPERVISED BY PROF. BERND BURGSTALLER

Republic of Korea

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, Shinyung 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](https://doi.org/10.1109/LCA.2025.3539371)

PREPRINTS

Cloudprofiler: TSC-Based Inter-Node Profiling and High-Throughput Data Ingestion for Cloud Streaming Workloads

Shinyung 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

SAMSUNG DS DIVISION THROUGH THE YONSEI-SAMSUNG SEMICONDUCTOR RESEARCH CENTER (YSSRC)

Republic of Korea

Sep. 2020 - Present

Application and Toolchain Support for Processing-in-memory (PIM)

INSTITUTE OF INFORMATION & COMMUNICATIONS TECHNOLOGY PLANNING & EVALUATION (IITP)

Republic of Korea

Apr. 2021 - Dec. 2023

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

NATIONAL RESEARCH FOUNDATION OF KOREA (NRF)

Republic of Korea

Jan. 2020 - Oct. 2020

Patents

Apparatus for Optimizing Code for Utilization of Process-In-Memory

BERND BURGSTALLER, HYUNMO SUNG, SEONGHO JEONG, JAY HWAN LEE, JIUN JEONG, AND SHINHYUNG YANG

Republic of Korea

Nov. 2023

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

Awards

Graduate Student Research Assistant Scholarship

DEPARTMENT OF COMPUTER SCIENCE, YONSEI UNIVERSITY

Republic of Korea

Spring 2022 - Fall 2023

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

Excellence Award

SOFTWARE CAPSTONE DESIGN

Republic of Korea

Spring 2021

- Graduation team project for the Department of Computer Science at Yonsei University
- Title: *Automatic Scoring and Feedback For Precision Education Software*

Excellence Award

SOFTWARE CAPSTONE DESIGN

Republic of Korea

Fall 2020

- Graduation team project for the Department of Computer Science at Yonsei University
- Title: *Statically Analyzing Access Vectors of Linux Kernel Vulnerabilities on Android Platforms*

Teaching

[CSI4104-01] Compiler Design

TEACHING ASSISTANT

Republic of Korea

Fall 2023

[CCO1100-{01, 02, 03}] Computer Programming

TEACHING ASSISTANT

Republic of Korea

Spring 2023

[CSI4104-01] Compiler Design

TEACHING ASSISTANT

Republic of Korea

Fall 2022

[CAC1100-01] Computer Programming

TEACHING ASSISTANT

Republic of Korea

Spring 2022

Language Proficiency

OPIc: **Advanced Low (AL)**

CERTIFICATE EXPIRATION DATE: 2026/09/04

Republic of Korea

Sep. 2024

- Highest score for OPIc