

SANGYUN LEE

Senior Software Development Engineer | Database & Storage Systems Architect

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in loganleedev-0606

Everett, WA

WORK EXPERIENCE

Microsoft (Azure SQL Database – Storage Engine)

Senior Software Development Engineer

July 2021 – Present

Redmond, WA

- **Concurrent SGAM Updates:** Architected a high-concurrency page allocation logic by redesigning SGAM update mechanisms, eliminating centralized contention bottlenecks to enable massive throughput scaling.
- **Dynamic Space Management:** Designing a scalable space management architecture for Hyper Scale environments to optimize storage efficiency and reduce infrastructure costs.

Coupang (Server Backend – Order)

Senior Software Development Engineer

Oct 2020 – June 2021

Seoul, Korea

- **High-Availability Architecture:** Migrated massive order datasets from Cassandra to AWS with zero downtime, ensuring 100% data integrity for high-traffic commerce systems.

Naver (Data Analysis – Shopping Data)

Senior Software Development Engineer

May 2020 – Oct 2020

Seongnam, Korea

- **Trillion-scale Real-time Pipeline:** Developed a high-performance API to deliver real-time shopping data for over 30 million active users to the advertisement system.

SAP LABS KOREA (HANA Database – Storage Engine)

Software Development Engineer

Nov 2016 – Apr 2020

Seoul, Korea

- **NVM Persistence Layer:** Optimized logging and persistence architecture for Non-Volatile Memory (NVM), resulting in a 70% reduction in database restart time.
- **LOB Performance:** Redesigned Direct Large Object Garbage Collection logic, achieving 5x faster performance in bulk deletion and management.

Tmax data (Tibero Database – Frontend)

Software Development Engineer

Aug 2013 – Oct 2016

Seongnam, Korea

- **Domain Indexing Framework:** Architected extensible indexing frameworks to support user-defined data types and complex high-performance queries.
- **PSM Debugger:** Built a comprehensive debugger for Stored Procedures (PSM) to enhance system-wide developer productivity.

CORE COMPETENCIES

- Database Architecture Design
- Database Engine Internals
- Storage Optimization
- High-Concurrency Control
- Distributed Systems
- Cloud Infrastructure (Azure/AWS)

SKILLS

Languages

Expert: C++, SQL, C, Java

Proficient: C#, Python, Shell

LANGUAGES

Korean: Native

English: Professional Working

EDUCATION

M.S. in Computer Science

Kyungpook National University

2011 – 2013

- Advisor: Prof. Wook-Shin Han
- Database & Graph Mining Laboratory

B.S. in Computer Science

Kyungpook National University

2006 – 2011

PUBLICATIONS

- Kim, M., Lee, S., Han, W., et al., "DSP-CC: I/O Efficient Parallel Computation," *In Proc. 32nd ICDE*, 2016.
- Kim, M., Lee, S., Han, W., et al., "DSP-CC: I/O Efficient Parallel Computation," *IEEE TKDE*, Vol. 27, 2015.
- Kim, J., Han, W., Lee, S., et al., "OPT: Overlapped and Parallel Triangulation," *In Proc. ACM SIGMOD*, 2014.
- Han, W., Lee, S., et al., "TurboGraph: A Fast Parallel Graph Engine," *In Proc. ACM SIGKDD*, 2013.