

KYUNGMIN KIM

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RESEARCH INTERESTS

Database systems

EDUCATION

Seoul National University (SNU)

Mar. 2025 - Present

M.S. in Data Science

Sungkyunkwan University (SKKU)

Mar. 2016 - Feb. 2023

B.S. in Computer Science & Engineering

*Including 18 months of Korean military service

GPA: 4.05 / 4.5

EXPERIENCES

Database Systems Research Laboratory, Seoul National University

Mar. 2025 – Present

Graduate Research Assistant (Advisor: Prof. Sang-Won Lee)

Seoul, South Korea

- Research on cloud-native database systems and data lakehouses, focusing on exploiting storage devices for performance and efficiency.

Kakao Corp.

Dec. 2021 - Apr. 2025

Data Engineer, Advertisement (AD) Development Team

Seongnam, South Korea

*Kakao offers KakaoTalk, the largest messenger application in South Korea with 45M+ users.

- Built data pipelines to process large-scale real-time AD traffic using Apache Kafka and Flink, deployed on Hadoop and Kubernetes clusters.
- Ensured secure storage and fast querying of high-volume data across distributed storage systems like Elasticsearch and Cassandra.
- Developed data-providing APIs within a Microservice Architecture using Spring WebFlux, Java, and Apache Airflow.

Kakao Corp.

Summer, 2021

Software Engineer Intern, AD Development Team

Seongnam, South Korea

- Designed and implemented a prototype for a display AD system, including a demand-side platform, AD serving, billing, and reporting components.
- Focused on developing low-latency web servers with Java and Spring Boot and orchestrating data pipelines on Kubernetes with Kafka and ELK stacks for logging and analytics.

Robotics Research Laboratory, Purdue University

Aug. 2018 - Dec. 2018

Undergraduate Research Assistant (Advisor: Prof. Eric T. Matson)

West Lafayette, IN, United States

- Led project on developing an aerial defect-detection solution for solar panels using Python, drones, YOLO, and OpenCV.
- Created an algorithm to automatically identify abnormal solar cells by detecting contour shapes.

Database Systems Research Laboratory, Sungkyunkwan University

Mar. 2018 – Aug. 2019

Undergraduate Research Assistant (Advisor: Prof. Sang-Won Lee)

Suwon, South Korea

- Conducted performance analysis and optimization of database engines utilizing non-volatile memory as a storage device.
- Researched MySQL/InnoDB MVCC architecture and locking schemes to identify opportunities for enhancing database performance.

INTERNATIONAL CONFERENCES & JOURNALS

1. “Analyzing the range of angles of a solar panel to detect defective cells, using a UAV”
Kyungmin Kim, Yoojin Choi, Keonyoung Shim, Hyewon Jeon, Jane Commerford, Eric T. Matson
 Third IEEE International Conference on Robotic Computing (IRC 2019), Feb. 2019

DOMESTIC CONFERENCES (KOREAN)

1. “Supporting Materialized Views on Data Lakehouses”
Kyungmin Kim, Sang-Won Lee
 Korean DataBase Conference (KDBC 2025), Nov. 2025
2. “Performance evaluation on concurrency control techniques of main-memory DBMS based on log device”
Kyungmin Kim, Jonghyeok Park, Sang-Won Lee
 Korean DataBase Conference (KDBC 2022), Nov. 2022
3. “Analysis of MySQL/InnoDB Lock Contention on TPC-C Workload”
Kyungmin Kim, Jong-Hyeok Park, Mijin An, Sang-Won Lee
 Korea Computer Congress (KCC 2019), Jul. 2019
4. “SQLite Database Engine with PMDK Library”
 Jong-Hyeok Park, **Kyungmin Kim**, Gihwan Oh, Sang-Won Lee
 Korean DataBase Conference (KDBC 2018), Oct. 2018
5. “Optimizing MySQL/InnoDB by Multi-Streamed data journal”
 Soyeon Choi, Dong Hyun Kang, **Kyung-Min Kim**, Sung-Youn Seo, Sang-Won Lee, Young Ik Eom
 Korea Computer Congress (KCC 2018), Jul. 2018

AWARDS

Best Paper Award , Korean DataBase Conference (KDBC)	Nov. 2025
SKKU Magna Cum Laude , Sungkyunkwan University	Feb. 2023
Dean’s List , Sungkyunkwan University	Spring, 2016; Spring, 2017; Spring, 2019; Fall, 2021
Creativity Award in 2020 Army Entrepreneurship Contest , Republic of Korea Army	June. 2020
Excellence Paper Award , Korea Computer Congress (KCC)	Aug. 2019

SCHOLARSHIPS

Graduate Student Research Grant , National Research Foundation of Korea (₩12M total)	Sep, 2025 – Aug, 2026
K-SW Purdue Scholarship , South Korean Government (IITP)	Aug. 2018
Full Tuition Scholarship , Sungkyunkwan University (approx. ₩36M total)	Spring, 2016 – Fall, 2022

PATENTS

Kyungmin Kim, Hyeonchul Yoon. “*Finding Music with Humming Sound.*” KR-Patent 10-2018-0046898

OTHER EXPERIENCES

- **Republic of Korea Army, Sergeant** Nov. 2019 - June. 2021
- Completed national duty with exemplary performance and leadership skills.
- **Sungkyunkwan University Software Mentoring Program, Teacher** May. 2017 - Nov. 2017
- Taught Arduino programming to high school students.
- **Edu Share Volunteering Program, Teacher** Sep. 2016 - May. 2017
- Taught mathematics to middle school students with few educational opportunities.
- **Sungkyunkwan University Authorized Ambassador, Club Vice President** Jul. 2016 - Jul. 2017
- Promoted the university’s Software department to prospective students.

TECHNICAL SKILLS

Languages: Java, Kotlin, C/C++, Python, SQL

Frameworks: Apache Flink, Spring Boot, Spring Cloud

Environments: Apache Hadoop, Kubernetes, AWS

Database Technologies: MySQL, Elasticsearch, Apache Cassandra, Apache HBase, Redis

Developer Tools: Git, Docker, IntelliJ, Visual Studio Code