

KYUNGMIN KIM

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RESEARCH INTERESTS

Database systems, Big data systems, Distributed systems

EDUCATION

Sungkyunkwan University

Mar. 2016 - Feb. 2023

B.S. in Computer Science & Engineering

Overall GPA: 4.05 / 4.5

Major GPA: 4.17 / 4.5

PROFESSIONAL EXPERIENCE

Kakao Corp.

Dec. 2021 - Present

Data Engineer, Advertisement (AD) Development Team

Seongnam, South Korea

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

- Build data pipelines to process large-scale real-time AD traffic using Apache Kafka and Flink, deployed on Hadoop and Kubernetes clusters.
- Ensure secure storage and fast querying of high-volume data across distributed storage systems like Elasticsearch and Cassandra.
- Develop 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.

RESEARCH EXPERIENCE

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.

PUBLICATIONS

1. "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

2. “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
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

HONORS AND AWARDS

SKKU Magna Cum Laude , Sungkyunkwan University	Feb. 2023
Full Tuition Scholarship , Sungkyunkwan University	Spring, 2016 – Fall, 2022
Dean’s List , Sungkyunkwan University	Spring, 2016 – Fall, 2022
Creativity Award in 2020 Army Entrepreneurship Contest , Republic of Korea Army	Jun. 2020
Excellence Paper Award , Korea Computer Congress (KCC)	Aug. 2019
K-SW Purdue Scholarship , South Korean Government (IITP)	Aug. 2018

PATENTS

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

EXTRACURRICULAR ACTIVITIES

Sungkyunkwan University Software Mentoring Program , <i>Teacher</i>	May. 2017 - Nov. 2017
<ul style="list-style-type: none"> · Taught Arduino programming to high school students. · Developed and delivered weekly lectures and assignments using custom materials. 	
Edu Share Volunteering Program , <i>Teacher</i>	Sep. 2016 - May. 2017
<ul style="list-style-type: none"> · Taught mathematics to middle school students with few educational opportunities. 	
Sungkyunkwan University Authorized Ambassador , <i>Club Vice President</i>	Jul. 2016 - Jul. 2017
<ul style="list-style-type: none"> · Promoted the university’s software department to prospective students. · Led and participated in weekly meetings and coordinated national tours. 	

TECHNICAL SKILLS

Languages: Java, Kotlin, C/C++, Python, SQL (MySQL)
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