

Dongseob Kim

Software Engineer at Samsung Research

010-9110-8333 | eastskim48@gmail.com |  [dongseob-kim-653 883 153](https://www.linkedin.com/in/dongseob-kim-653883153)

INTERESTS

- Building and designing efficient systems for AI and data platforms
- Scalable data engineering and database technologies.
- Efficient machine learning training and inference

EDUCATION

Seoul National University

Seoul, Korea

M.S. (Expected), Graduate School of Data Science

Mar. 2025 - Feb. 2027

- Research Assistant at VLDB Lab (Advisor: Professor Sang-won Lee)

Korea University

Seoul, Korea

Bachelor of Computer Science and Engineering

Mar. 2014 - Feb. 2020

- Total GPA: 3.79/4.5 (Major GPA: 4.06/4.5)

WORK EXPERIENCE

Samsung Research (Samsung Electronics)

Seoul, Korea

Software Engineer, Data Intelligence Team

Feb. 2020 – Present

- Developed **Personal Data Engine** for Galaxy AI, an on-device data platform enabling personalized data processing and retrieval on mobile devices.
 - Implemented end-to-end data pipeline and search functionality with query optimization.
 - Product was showcased at **Galaxy Unpacked 2025**, recognized with the **Samsung Software Award** (team award).
- Collaborated with research institutes and global startups on applied R&D and product development
 - Contributed to a PoC project with an Israel-based startup.
 - Engaged with Samsung-acquired startup **Oxford Semantic Technologies** to translate requirements into technical specifications.
 - Coordinated a joint project with Samsung R&D Poland and Samsung AI Center Cambridge.
- Researched a distributed deep learning training system for heterogeneous GPU clusters
 - Achieved up to 8.4x speedup and published research paper

PUBLICATIONS

Published Papers

MatSQL: Accelerating Text-to-SQL via Database Schema Materialization

Kyong-Shik Lee*, **Dongseob Kim***, Sang-Won Lee
ICDE 2026 Workshop (DBML) | *Equal contribution

언어 모델의 키-값 캐시 재사용을 통한 이미지 질의응답 성능 개선에 관한 연구

Dongseob Kim, Kunwoo Shin, Sangwon Lee
KCC 2025, pp. 1757–1759 | July 2025

Metis: Fast Automatic Distributed Training on Heterogeneous GPUs

Taegeon Um, Byungsoo Oh, Minyoung Kang, Woo-yeon Lee, Goeun Kim, **Dongseob Kim**, Youngtaek Kim, Mohd Muzzammil, Myoungjae Jeon
USENIX ATC 2024, pp. 563–578 | July 2024

Under Review and In Preparation

Decoupling Granularity in Vector Database for RAG

Working title | Under review | First author

PATENTS

Electronic device and controlling method of electronic device

US Patent 12,307,209 B2 (Granted)

Dongseob Kim, Dohyoung Mo

May. 2025

- Method for recognizing sentences across separately inputted messages in an AI chatbot

Electronic apparatus and control method thereof

US 2023/0054 108 A1 (Published)

Dongseob Kim

Feb. 2023

- Method for inferring human relationships by analyzing data on mobile devices

HONORS AND AWARDS

Samsung Software Awards - Project Division (Team)

Samsung Electronics

Oct. 2024

Samsung Software Awards - Programming Division (Individual)

Samsung Electronics

Oct. 2023

Excellence Award at Academic Competition for Undergraduates, KCC 2019

Korean Institute of Information Scientists and Engineers

June. 2019

Encouragement Award at Smart Tourism App Competition (Top 15 out of 182)

Korea Tourism Organization, SK Telecom

Dec. 2018

TECHNICAL SKILLS

Advanced

Kotlin, Python, C++, Android, SQL, PyTorch, Docker

Moderate

Java, Kubernetes, GCP(BigQuery, GKE, Dataflow, Bigtable), Web Development

LANGUAGE TEST SCORES

TEPS: 375 (expired)

May 2024

OPIc (English): Advanced Low (expired)

October 2019