

SUMMARY

Software Engineer with 5+ years of experience in large-scale backend systems and data infrastructure. Currently at Georgia Tech, my focus is developing video query systems for spatial-temporal event indexing and retrieval.

EDUCATION

M.S. in Computer Science (GPA 3.87/4.00) 2024.01-2025.12 (expected)
Georgia Institute of Technology / Atlanta, GA

Coursework:

- Systems: *Database Internals, Advanced Operating Systems*
- AI/ML: *Big Data for Health, Deep Learning*

B.S. in Electrical and Computer Engineering 2011.03-2015.08
Seoul National University / Seoul, Republic of Korea

SKILLS

- **Programming Languages:** Java, Python, C, C++
- **Distributed Systems & Infrastructure:** Kafka, Spark, Redis, ClickHouse, HBase, Debezium
- **Databases & Query Engines:** MySQL, Hive, Presto, Hibernate

PROFESSIONAL EXPERIENCE

Sr. Backend Engineer, Coupang, Inc - Eats Engineering 2021.08–2024.04

- Built a real-time event streaming platform (12.6M+ events/day, 2.5K+ queries/day) for ML pipelines
- Developed delivery match infrastructure (multi-order, pull-based dispatch)
- Received company-wide award and filed a patent in data infrastructure

Software Engineer, Line Corp - LINE Messaging Infrastructure 2019.01–2021.07

- Delivered chat group features for 2M+ DAU, supporting 100 chats/group
- Built large-scale sync system for 120M+ users and social graph ingestion at 96K msg/sec peak

Software Engineer - Republic of Korea Air Force (military service) 2016.02–2018.02

- Designed and built internal notification system with SVG visualization and custom messaging protocol

RESEARCH EXPERIENCE

Graduate Researcher, Data Systems Lab (Advisor: Prof. Kexin Rong) 2025.01–present

- Designed KeyframeQL, a hybrid query language for spatial-temporal events in video data (submitted to *SIGMOD '25 workshop*)
- Combined keyframe abstraction, temporal logic, and soft scoring for expressive and robust querying

PATENT

KR Patent 1026779280000 – Event Streaming Platform in Coupang Microservices (2024)

- Hierarchical event structuring, privacy-preserving preprocessing, columnar schema design

PROJECTS

KeyframeQL [[Paper](#)]

- Designed a hybrid query language combining keyframe abstraction, signal temporal logic, and soft predicate scoring, applied to traffic camera and sports analytics.

gtdb [[GitHub](#)]

- Implemented key database internals including external sorting, ARIES recovery, two-phase locking, and Selinger-style query optimization.