TAEHYEOK JANG

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SUMMARY

Software Engineer with 5+ years of experience in large-scale backend systems and data infrastructure. Currently at Georgia Tech, my focus is developing a video query system 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: *(*Research*) Master's Project,* (Systems) *Database Internals, Advanced Operating Systems, Graduate Algorithms, (*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 engine combining keyframe abstraction, signal temporal logic, and soft predicate scoring, applied to traffic camera and sports analytics.

vdbms-vlm [GitHub]
- Developed a video retrieval system leveraging video understanding models and semantic search.

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