TAEHYEOK JANG

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PROFILE SUMMARY

I am a Master's student at Georgia Tech with expertise in large-scale distributed systems, ML infrastructure, and data-intensive applications. I have 5+ years of backend engineering experience at Coupang and LINE, where I scaled services to 500K+ daily transactions and served hundreds of millions of users. My current research focuses on developing video query systems for spatial-temporal event retrieval.

EDUCATION

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

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

RESEARCH EXPERIENCE

Graduate Researcher, D2I Lab (Advisor: Prof. Kexin Rong)   2025.01–
- Designing KeyframeQL, a hybrid query language for spatial-temporal events in video data
- Leveraging object detection and tracking to build an efficient query backend for indexing and similarity search

Graduate Researcher, Systems for AI Lab (Advisor: Prof. Alexey Tumanov)   2024.08–2024.12
- Developed privacy-preserving ML inference serving systems using differential privacy (in review at ATC '25)
- Evaluated ϵ-DP defense against SOTA ML attacks, showing a reduced accuracy in model extraction by 7.02% and membership inference by 10.32%

PROFESSIONAL EXPERIENCE

Sr. Backend Engineer, Coupang, Inc - Eats Delivery Team   2021.08–2024.04
- Developed infrastructure for delivery match optimization (multi-order, sequential order, pull-based match), driving ~5× growth in daily orders (120K->580K) and 3.75× increase in couriers (8K->30K), and reducing avg delivery time by ~25% (58 min->44.2 min)
- Designed and built a real-time event streaming platform, processing over 13M+ events and 2.5K queries per day, serving foundational data for ML applications
- 1 patent, 1 organization-wide award for contributions to Coupang Eats Data Initiative

Software Engineer, Line Corp - LINE Messaging Infrastructure Team   2019.01–2021.07
- Developed chat group features for 2M+ active users, supporting 20 groups per user and 100 chats per group
- Designed and implemented a large-scale synchronization system between LINE core service and LINE social graph platform, handling 120M+ users, 5K social graphs per user, and 96K messages/sec peak throughput

Software Engineer, Republic of Korea Air Force   2016.02–2018.02
- Built an Air Force notification system from scratch for 100+ internal users.
- Features include SVG data visualization, reliable messaging protocol

PATENT

Event Streaming Platform in Eats Microservices (KR Patent, 1026779280000)   2024.06
- Innovations: hierarchical event structuring, privacy-preserving preprocessing, highly sparse/extensible data schemas based on columnar storage

SKILL SET

- Programming Language: C, C++, Java, Python
- Backend Infrastructure: Spring Boot, MySQL, Hibernate, Kafka, Redis
- Data Infrastructure: HBase, ClickHouse, Kafka Streams, Debezium, Hive, Presto
- ML Systems: PyTorch, TensorFlow, Ray, Ray Serve