Ian Park Software Engineer

INFO

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Languages: English (Native), Korean
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Portfolio: ianpark.dev/ko/about/
Skills: Java, Kotlin, TS/JS, Rust, Go, SQL + Frameworks

PROFESSIONAL EXPERIENCE

Full-stack Engineer | 2025.03-Now

Zium Knowledge Service

Naver Financial — Paymoney Adapter API Backend Development

- Designed and developed a payment adapter API server built with Kotlin (Spring Boot).
- Implemented Kafka-based asynchronous pipelines for external payment integrations, enabling automatic retries and latency mitigation during system failures.
- Deployed and managed infrastructure on Kubernetes and Helm, ensuring scalability and reliability.
- Improved system resilience to external dependency failures using Resilience4j for circuit breaking and retry policies.
- Optimized SQL queries and introduced Redis caching, achieving over 60% reduction in average response time.
- Enhanced operational visibility and stability by visualizing key metrics with Prometheus and Grafana.
- Applied Clean Architecture principles, incorporating JUnit and MockK for robust unit and integration testing.
- Strengthened security through KMS-based key management integrated with Naver's internal systems.

Naver Financial — MyBiz Business Reporting Service (Frontend & Backend Development)

- Developed a financial reporting web application serving hundreds of thousands of business users.
- Designed data visualization UIs using React and Chart.js.
- Implemented high-performance APIs for processing large-scale financial data efficiently.
- Built a frontend CI/CD pipeline with Playwright, Vitest, and Storybook, improving reliability.
- Optimized communication between the Spring Boot backend and the frontend to minimize data response latency and enhance user experience.

Moabojo — Policy Subsidy App (Product Planning, Backend Lead, and Frontend Development)

- Planned, led, and developed both the backend and frontend for Moabojo, a policy subsidy discovery app providing personalized government support recommendations.
- Designed and implemented a hybrid search system combining Elasticsearch (text search) and Qdrant (vector-based personalized recommendations).
- Implemented secure authentication architecture with OAuth2, JWT, and Refresh Token Rotation, supporting multi-device session management.
- Developed a Kafka-based CDC pipeline for real-time embedding generation and indexing.
- Built a Shorts-style recommendation feed with a re-ranking engine based on user impression and interaction logs.
- Architected the Spring Boot backend using Project Loom (JVM 21+) Virtual Threads for high-concurrency performance.
- Set up monitoring and logging pipelines with Prometheus, Grafana, Loki, and Promtail for full observability.
- Migrated core architecture and services to MongoDB, improving scalability and flexibility.
- Developed a GIS visualization dashboard using Mapbox to display regional policy data interactively (frontend).

Research Software Engineer | 2020.10–2023.04 | Austin, Texas

Texas Advanced Computing Center, UT Austin • WMA

HazMapper · GeoAPI — Research Visualization Platform

- Developed a research platform for processing and visualizing geospatial data related to natural disasters.
- Designed and implemented a PostgreSQL + PostGIS architecture with a caching layer and a RabbitMQ-based event pipeline for real-time data updates.
- Optimized tiling and preprocessing pipelines, reducing large-scale GIS data loading time by approximately 80%.

- LiDAR-Based Data Processing and Visualization
- Processed and visualized LiDAR (LAS/LAZ) datasets, enabling large-scale geospatial data analysis and rendering.
- Deployed a Flask-based API in a Kubernetes environment, and automated CI/CD workflows using Jenkins.
- Monitored logs and performance metrics with Splunk and Grafana to ensure service stability and reliability.
- Collaborated on joint research with faculty from the University of Texas at Austin College of Engineering.

Core Portal / Tapis API Platform Backend Development

- Developed the backend for TACC's research cloud platform, supporting large-scale academic and scientific workloads.
- Enhanced authentication and session management architecture using OAuth2 and JWT, ensuring reliable operation for thousands of researcher accounts.
- Implemented a RESTful service layer on top of the Java-based Tapis API, enabling HPC job execution, data transfer, and metadata management.
- Designed PostgreSQL and Redis–based session storage and access control logic, improving security and scalability.
- Optimized Jenkins + Docker CI/CD pipelines, reducing deployment time by over 70%.
- Mentored backend engineering interns during TACC's summer internship program, conducting code reviews and quality assessments.

Research Intern | 2019.06–2020.09 | Grand Rapids, Michigan

Calvin University • Dr. Fred Haan

NSF-Funded Research Platform for Natural Disaster Analysis Automation

- Designed and built a research data platform for analyzing and visualizing natural disaster data, including tornado events.
- Automated data preprocessing and analysis workflows using Python (Pandas, NumPy, SQL), saving over 10 hours per week of manual effort.
- Integrated image and time-series data analysis, improving research efficiency and data quality.
- Developed reproducible GIS web applications and dashboards using Leaflet, Bokeh, and Angular 2+ for interactive visualization.

MILITARY

Republic of Korea Army | 2023.05–2024.11

2nd Armored Brigade, Intelligence Company

- Served as English interpreter for the brigade during UFS/FS U.S.–ROK Combined Exercises, dispatched twice as official representative interpreter.
- Promoted three months early for excellence in duty performance, technical proficiency, and conduct.
- Received multiple commendations and awards, including:
  - Commando Training (Top Performer, "Ranger King")
  - Homeland Defense Exercise Commendation
  - Winter Warfare Training Commendation
  - Outstanding Soldier Award

EDUCATION

Calvin University | 2016.09–2020.05 | Grand Rapids, Michigan

Computer Science, B. CS.

- Cumulative GPA: 3.52 / 4.00
- Major GPA: 3.80 / 4.00
- Trustee's Scholarship Recipient
- Dean's List (All Semesters, 2018–2020)
- Founder & President, CalvinHacks: University's official MLH hackathon (2018–2020)
- President, Abstraction (Computer Science Club) (2019–2020)