

Min Joo Kang

Senior Software Engineer

Singapore, Singapore | [LinkedIn](#)

I'm a Senior Software Engineer specializing in backend & distributed systems for financial infrastructure, where correctness, reliability and auditability are the product. The system cannot lose a cent or pay a user twice.

In 5+ years I've worked across the full financial transaction lifecycle — multi-market investment, trading, brokerage, settlement, custody and bank treasury integrations at Endowus, and payments, digital wallets, and ledgers at Paywatch. The challenges I thrive on sit where distributed systems meet real money movement — keeping financial state consistent across async workflows, external providers, idempotency, concurrency and explicit failure recovery.

At Endowus — now Asia's leading digital wealth platform with S\$16B+ in assets — I joined as its 6th engineer / 18th employee and helped establish the Trading team's foundation with the Engineering Manager as the company scaled to 80+ engineers. I built core parts of its multi-broker, multi-currency platform in Singapore and Hong Kong: event-sourced trading workflows, order netting, clearing & settlement, custody & cash ledgers, and brokerage, banking & fund-platform integrations (UOBKH, HSBC Treasury, AllFunds). I led the UOB-to-HSBC banking migration that cut deposit reflection from 2–3 business days to under 5 minutes. I was promoted from Intern to Software Engineer II in 18 months on “Outstanding” ratings.

At Paywatch, a Singapore-headquartered earned-wage-access fintech across 6 Asia-Pacific markets, I've led the backend architecture for a prepaid wallet and transaction ledger, and spearheaded the evolution of a Python/Django monolith into a Kotlin/Spring Boot event-sourced CQRS platform — outbox, CDC backfill, DLQ recovery and re-projection tooling. More recently I've built AI-assisted infrastructure that boosted team productivity: an MCP integration layer across financial & operational systems, and an internal agent that cut first-pass incident MTTR by 60%.

Earlier I co-founded a seed-funded healthcare IT startup as co-CEO. Building a product from zero to launch shaped how I work today — start from the business problem, understand the domain deeply, and architect resilient systems end-to-end, from ambiguous requirements to scalable, reliable production.

Core: Distributed Systems · Event-Driven Architecture · DDD · Microservices · Event Sourcing · CQRS

Financial Systems: Payments · Ledger · Digital Wallets · Trading & Brokerage · Settlement & Reconciliation · Custody & Treasury

Singapore Permanent Resident — no work pass required.

EXPERIENCE

Senior Software Engineer

Dec 2024 — Present

Paywatch

Seoul, South Korea

Singapore-headquartered earned-wage-access FinTech operating across 6 Asia-Pacific markets, serving 350K+ employees at 300+ enterprise clients. Posted overseas from Singapore HQ to support regional engineering operations. I work on the Korea platform: ~US\$80M disbursed across 515K+ salary advances, 1.86M API requests per month at 99.98% success.

Prepaid Wallet & Financial Ledger — Own backend architecture and end-to-end delivery of PayWatch Money, evolving direct salary-advance withdrawals into a prepaid-wallet and provider-conversion platform; designed the financial domain model, ledger, APIs, lifecycle batch jobs, operational tooling and payout provider integrations.

Correctness Under Concurrency — Designed a high-correctness financial ledger and transaction model with FIFO funding-lot attribution and concurrency controls for traceable money movement including pessimistic locking, deterministic lock ordering, idempotent execution, and failure recovery.

Event-Sourced Platform & Reliability — Led the migration of legacy Python/Django domains toward Kotlin/Spring Boot/Axon Event Sourcing & CQRS architecture with Kafka, Transactional Outbox, DLQ recovery, CDC-based migration, and aggregate re-projection tooling.

AI-Augmented Engineering — Architected an MCP integration layer exposing 41 tools across 11 financial domains, providing governed access to event-sourced and legacy systems for internal and customer-facing AI agents. Extended Hermes, a Slack-native AI engineering agent integrating engineering knowledge, repository context, production telemetry, AWS, Kafka events, Git history and live system state for source-cited engineering Q&A and incident investigation; reduced first-pass incident MTTR by 60%.

Tech: Kotlin · Spring Boot · Axon · Kafka · Python · Django · MySQL · Redis · Celery · AWS · MCP

Software Engineer II — Backend, Trading & Cash Management

Nov 2020 — Apr 2023

Endowus

Singapore

MAS-licensed digital wealth platform managing S\$16B+ in assets.

Joined early-stage as its 6th engineer / 18th employee and helped establish the early Trading team's engineering foundation with the Engineering Manager as the company scaled to 80+ engineers / 250+ employees.

Promoted from Intern → Software Engineer I → Software Engineer II within 18 months on “Outstanding” performance ratings.

Multi-Market Brokerage & Custody — Architected and built core components of Endowus' brokerage and custody platform supporting its Hong Kong expansion. Built multi-currency custody and cash-management ledger flows across master, virtual, customer and operating accounts.

Event-Sourced Trading Engine — Engineered event-sourced trading workflows across internal orders, external trades and settlement orchestration across fund and cash positions using Scala/Akka, Kafka event streaming, persistent event journals and CQRS read models.

Partner Integrations — Integrated UOBKH, HSBC Treasury and AllFunds dealing infrastructure. Streamlined dealing,

order netting and settlement reconciliation pipelines across the full trade execution lifecycle.

Engineering Culture — Led technical onboarding and domain knowledge transfer for incoming senior/staff engineers joining from FAANG and global investment banks.

Tech: Scala · Akka · Lagom · Kafka · Cassandra · PostgreSQL · Event Sourcing · CQRS · DDD · Python · Apache Airflow · Kubernetes · CI/CD · ELK · GCP/AWS

Software Engineer Intern

Jan 2020 — Mar 2020

Endowus

Singapore

Built a stock-trading prototype while ramping up on Scala, Akka, Kafka, Cassandra, DDD and Event Sourcing/CQRS; identified and fixed an edge case that omitted transactions from external broker settlement files. Received a full-time return offer.

Co-Founder & Co-CEO

Jun 2017 — Aug 2018

JellyLab co.,Ltd

Seoul, South Korea

Co-founded and led a healthcare technology startup from zero to launch, building a clinician-facing analytics product on patient chatbot data. Led business strategy and zero-to-one product development and secured seed funding from BluePoint Partners and Digital Healthcare Partners (DHP).

EDUCATION

Korea Advanced Institute of Science and Technology

Sep 2014 — Feb 2021

Bachelor's degree in Computer Science

National Science & Engineering Scholarship (Full Tuition)

Overseas Family School, Singapore

Feb 2008 — Jun 2014

International Baccalaureate (IB) Diploma & Bilingual Diploma in STEM

Higher Level Math and Physics (Academic Distinction Awards - Grade 42/42)

- Educated in Singapore from secondary school

CERTIFICATIONS

3rd Place Final Round & DeFi (Decentralized Finance) Category, Cosmos HackAtom Seoul

Jul 2019

SKILLS

Distributed Systems · Microservices · Backend Development · System Design · Software Architecture · Event-Driven Architecture · Software Engineering · Domain-Driven Design (DDD) · Event Sourcing · CQRS · Concurrent Programming · Computer Science · Functional Programming · Kotlin · Java · Python · Scala · C · C++ · Akka · Spring Boot · Django · Axon · Apache Kafka · Cassandra · MySQL · PostgreSQL · Amazon SQS · Redis · Celery · Apache Airflow · Amazon Web Services (AWS) · Google Cloud Platform (GCP) · Continuous Integration and Continuous Delivery (CI/CD) · Kubernetes · Docker · Elastic Stack (ELK) · Sentry · Prometheus · Grafana · javascript · Node.js · React.js · Model Context Protocol (MCP) · Financial Infrastructure · Financial Services · Asset Management · Trading Systems · Brokerage · Custody