

Skills

AI / LLM	• RAG: PostgreSQL and pgvector storage, access-aware retrieval, citation and number checks • Local OCR and LLM: connected PaddleOCR-VL, HunyuanOCR and Gemma runtimes through Docker and llama.cpp, with stage caching • Team AI server: wrote Docker, GPU setup and switching scripts for vLLM, Ollama and GPT-SoVITS
Back-end	• Primary: Java, Kotlin, Spring Boot, Python, FastAPI, PostgreSQL • REST APIs, SQL, transactions, locking, database constraints, error and state handling • Also used: MySQL, Redis, WebSocket/STOMP
Infrastructure	• Docker, Linux, GitHub Actions, Nginx, personal NAS and OCI services • Windows setup and run automation, pytest and JUnit, reproducible benchmarks
Others	• C++ (including C++20): used mainly in university coursework and coding test practice • Kotlin Android, Jetpack Compose and Room project experience • Git, GitHub pull requests, technical documentation and cross-project API contracts

Education

Pusan National University
Computer Science and Engineering
Expected graduation: Feb 2027

Experience

document-translate-myfix Personal open-source fork · local OCR and translation runtimes Apr 2026 - Present GitHub	• Implemented Docker start, stop and resource-release paths so OCR and translation models could use the GPU in turn.
Screening Humanity Team prototype · FastAPI back-end / local AI server Jan 2026 AI Server GitHub Backend GitHub	• Changed chat and speech APIs and the vLLM, Ollama and GPT-SoVITS setup and switching scripts. • GPU memory limits required choosing either vLLM or Ollama at a time. The final demo used the Ollama path.
Personal NAS and OCI Self-Hosting Personal infrastructure operations Winter 2022 - Present	• Self-hosted a Kavita library, Jellyfin media service and personal projects with Docker on a NAS and OCI Linux VM. • Page turns in remote Kavita reading were delayed, so I set up image and PDF caching and next-page preloading. When preloading failed due to a certificate-name mismatch, I aligned TLS SNI and HTTP Host and checked response, cache and queue records. • Tested XPenology on Proxmox, then removed the Proxmox layer. XPenology is now the main NAS, with services running in Docker.

Projects

AI Trading Coach with User-Defined Risk Rules

Three-person capstone · PM /
Decision Platform
May 2026 - Oct 2026
[GitHub](#)

- Requiring both the rules and model to say BUY left over half of offline sessions without a candidate. I changed the flow to rule-proposed candidates with a model SELL veto.
- Compared six combinations on the same 31 stocks and 5,362 sessions: no-candidate rate fell from 51.8% to 1.4%. I implemented the rule and added regression tests.
- Mock-order tests covered submission, fills, balance updates and duplicate prevention after user and safety checks.
- Separated financial sources, revisions, chunks and embeddings in PostgreSQL, with public/private retrieval and citation checks.
- Teammates owned LSTM training, the Return Engine and dashboard UX.

Document and Image Translation Pipeline

Personal open-source maintenance
fork
Apr 2026 - Present
[GitHub](#)

- Added local HunyuanOCR, PaddleOCR-VL and Gemma paths to comic-translate.
- Direct model requests cut OCR wall time from 60.2 to 8.3 seconds on the same six Japanese pages and 73 text regions; the final normalized OCR results matched.
- Stage caching reuses matching input, model and settings. A two-page first run plus identical rerun took 279.9 seconds without caching and 156.0 seconds with it.

U.S. Stock Trading Simulation

Two-person team · Back-end /
deployment
Jan 2026
[Backend](#) [GitHub](#)

- Built Spring Boot flows for orders, wallets, holdings and trade history. Price requests run outside DB transactions; balance and holding changes use locking and transactions.
- Cached prices with Redis and delivered them through WebSocket. I integrated a FastAPI AI server and deployment setup; a teammate owned the interface and design.

KB AnsimVoice and Money Rules

Three-person contest prototype ·
Agent / TTS
Jul 2026 - Aug 2026
[Public](#) [GitHub](#)

- Rechecked the amount, recipient and account in an AI-drafted transfer against the user's utterance and server data. Mismatches are not passed to the transfer flow.
- Rule-based code handles transfer decisions and one-time approval. I worked on the constrained agent, input checks and TTS, WebSocket and Docker integration.

Net Zero Smart SCM

Individual database course project
Dec 2025
[GitHub](#)

- Built a Java, Spring Boot and PostgreSQL course project for supplier, order, delivery, inventory and carbon data.
- Kept order, delivery and inventory changes in one transaction, with database constraints and error handling to prevent inconsistent updates.

OliveME Personal Color Android App

Two-person team · Android
architecture / data / integration
May 2026 - Jun 2026
[Team](#) [GitHub](#)

- Built Android screens and storage flows with Kotlin, Jetpack Compose and Room, and connected AI and map APIs.
- Kept saved diagnoses and local guidance available when an external API or backend fails. A teammate shared the screen design work.

College Student Flea Market

Nov 2025 - Dec 2025
[GitHub](#)

- Built session authentication, product and comment flows, search and account pages with Express, EJS and MySQL in a two-person course project.

FPGA Morse Code Transceiver

Nov 2025 - Dec 2025
[GitHub](#)

- Connected Verilog state machines, clock division and transmit/receive modules to buttons, LEDs, seven-segment displays and a buzzer on an FPGA board.

Busan Tourist Traffic Accident Analysis

Jun 2025
[GitHub](#)

- Combined visitor, transport facility and accident data around 50 Busan attractions, then published statistical analysis, maps, a notebook and a report.

External Activities

KEEPER Security Club

Member
Mar 2025 - Aug 2026

- Joined the web vulnerability study from Mar to Jul 2025.

APPTIVE

Member
Mar 2026 - Sep 2026

Kakao Tech Campus

Agentic AI · In progress
May - Nov 20, 2026 (expected)

- Completion and project links will be added after verification.