

Jimin Lee

Software Engineer

Los Angeles, CA, United States | [LinkedIn](#) | [Blog](#) | [GitHub](#)

Full-stack and AI systems engineer with experience building production platforms and AI-powered applications, from healthcare research tools to enterprise procurement systems.

EXPERIENCE

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- Service Integration Intern, Integration & Interoperability Platform** Jun 2026 — Aug 2026
Blue Shield of California *Long Beach, California, United States*
Built an AI-assisted Boomi-to-MuleSoft migration workflow reducing medium-complexity migration effort by 70–80%. Developed an LLM agent skill and 6 custom Python MCP tools for tracing source-to-target mappings and parsing legacy transformation logic across 270+ fields. Migrated 4 enterprise integrations end-to-end with all tests passing and auto-generated documentation.
- Web Team Lead (NIH R01 Funded Project)** Jan 2026 — Present
University of Southern California, Interaction Lab *Los Angeles, CA*
Leading full-stack development of a secure longitudinal research platform supporting 90+ participants. Designed backend schemas, API contracts, and serverless workflows using Next.js, TypeScript, AWS Amplify, DynamoDB, and Lambda. Built LLM-assisted therapeutic reflection workflows and real-time robot communication through AWS IoT Core and MQTT.
- Web Team Lead (NIH R01 Funded Project)** Sep 2025 — Aug 2026
University of Southern California *Los Angeles, California, United States*
 - Lead full-stack development of a secure NIH R01-funded research platform supporting 90+ participants in an active longitudinal study using Next.js, TypeScript, and AWS
 - Translate longitudinal study and robot-interaction requirements into backend schemas, API contracts, and production workflows
 - Implement LLM-assisted therapeutic reflection and real-time integration with Blossom robots through AWS IoT Core and MQTT
- Graduate Research Intern** Sep 2025 — Aug 2026
University of Southern California, AI for Health Lab *Los Angeles, CA*
Developed a cold-start computerized adaptive testing pipeline using LLM-based simulation and IRT calibration. Co-authored a paper on synthetically calibrated item banks currently under review at ACL Rolling Review.
- Full-Stack Engineer, AI Business Division** Sep 2023 — Jun 2025
emro *Seoul, South Korea*
Developed and launched a production procurement analytics platform for Hyundai Motor Group, translating procurement workflows into quotation search, price benchmarking, and analytics. Built enterprise backend APIs using Java/Spring and PostgreSQL, integrated a Python/Flask FastText similarity service processing 100K+ quotations monthly, and reduced page load time from 10 seconds to under 2 seconds. Standardized CI/CD across Azure and on-prem environments using Jenkins and Docker.
- AI Engineering Apprentice / Machine Learning Engineer** Jan 2023 — Feb 2023
PeopleSpace *Irvine, California, United States*
 - Constructed an AI image-generation service for individuals with dyslexia, fine-tuning a Stable Diffusion model with Fast.ai to achieve a 3.63/5 user satisfaction score, outperforming baseline
 - Engineered end-to-end service, from model fine-tuning to deployment on Hugging Face, enhancing accessibility and scalability
- Undergraduate Research Intern (IRASC Lab)** Sep 2022 — Feb 2024
Gachon University *Seongnam, Gyeonggi, South Korea*
 - Applied open-source deep learning models for pose estimation to analyze dance video similarity
 - Gained hands-on experience in building a front-end data pipeline for synchronization and visualization
- React Native Developer** Apr 2022 — Sep 2022
Gymmon *Seongnam, Gyeonggi, South Korea*
 - Led front-end development of the React Native-based mobile app Fitcok, contributing 100% of production code under Agile workflows (Kanban, Jira).
 - Collaborated closely with back-end developers to build core modules for main and admin services.
 - Defined and documented feature requirements for a community app; co-designed user flows and screens with UI/UX designers.
- Army** Sep 2019 — Mar 2021
Republic of Korea Army *Chuncheon, Gangwon, South Korea*

EDUCATION

University of Southern California
Master of Science in Computer Science

Aug 2025 — May 2027

University of Southern California
Master's degree in Computer Science

Jan 2025 — Jan 2027

Relevant Coursework:

CSCI 566 (Deep Learning and its Applications)
CSCI 570 (Analysis of Algorithms)
CSCI 571 (Web Technologies)
CSCI 577a (Software Engineering)

Gachon University
Bachelor of Engineering in Software Engineering
Cum Laude

Sep 2018 — Feb 2024

Gachon University
Bachelor of Engineering - BE in Computer Software Engineering

Mar 2018 — Feb 2024

Graduated Cum Laude

Graduate Program : LDC(Learn, Dance, Challenge)

- An application that helps you to learn dances. Application compares user's dance and the dance recorded in video to tell you what is wrong.

Teach user dance in sequential steps

- Core Technology : OpenPose Skeleton Detection, LSTM Dance Detection
- React

Shanghai American School

Jan 2004 — Jan 2009

PROJECTS

Visurai – AI-powered Visual Storytelling Assistant

□ Software Engineering Award & 1st Place, Context Engineering — USC Good Vibes Only Buildathon

- Built an AI-powered visual storytelling assistant that transforms text into sequential images and spoken narration to support dyslexic, ADHD, and visual learners.

- Integrated GPT-4o for text comprehension, OpenAI and Flux for image generation, and TTS for multimodal learning experiences.

Peeko – Real-Time AI Lecture Recovery System

□ 1st Place Overall, Build4SC Hackathon @ USC

Built a real-time lecture recovery system that helps students quickly understand what they missed through AI-generated summary cards and a “Catch Me Up” experience.

- Led product direction from initial concept to final demo

- Built the backend and LLM pipeline for rolling lecture summarization and contextual catch-up

- Designed and refined the user interaction around real-time recovery rather than distraction detection

- Built and shipped the complete prototype with a four-person team in 12 hours

A-Log – Web-based Release Note Collaboration Platform

- Developed a collaborative platform enabling real-time editing and sharing of release notes using React and TypeScript.

- Designed UI/UX flows and implemented core features for live collaboration.

- Collaborated on microservices architecture with Kubernetes and Docker; implemented Kafka-based notification system.

A-Form – AI-based Automatic Survey Generator

- Developed an AI-powered platform for survey generation and result summarization on a cloud-native MSA system.

- Designed UI/UX and structured React project for scalability and maintainability.

- Optimized performance with Lighthouse and validated components using Jest.

Real-time AI lecture recovery system, Peeko

Led a 4-person team to design and ship an end-to-end AI product in 12 hours. Built LLM pipelines for rolling session summarization, catch-up recovery, and Q&A detection with a Node.js/Supabase backend.

AI-powered visual storytelling assistant for dyslexic, ADHD, and visual learners, Visurai

Built a FastAPI backend converting text into visual storyboards and narration. Designed an asynchronous multi-stage generation pipeline with concurrency controls for long-running AI workloads.

CERTIFICATIONS

RCR at USC, CITI Program

Feb 2026

GCP – Social and Behavioral Research Best Practices for Clinical Research, CITI Program

Research HIPAA, CITI Program

Social-Behavioral Human Subjects, CITI Program

SKILLS

Python (Programming Language) · Java · JavaScript · TypeScript · Software Engineering · AI Agents · Amazon Web Services (AWS) · React.js · Artificial Intelligence (AI) · Enterprise Integration · Model Context Protocol (MCP) · REST APIs · LLM · Full-Stack Development · Large Language Models (LLM) · Human Computer Interaction · aws iot core · Next.js · MuleSoft Anypoint Platform · Multi-agent Systems · DataWeave · Prompt Engineering · FastAPI · OpenAI API · LLM Engineering · Docker · SQL · LangChain · langgraph · Stable Diffusion · fast.ai · Spring Framework · Jenkins · React Native · Machine Learning · Python · Spring Boot · Flask · React · LLM applications · MCP · agentic workflow design · LLM evaluation · MySQL · PostgreSQL · AWS · Azure · CI/CD