

Jiwoo Hong

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Summary

I am a software engineer with hands-on experience in backend development, infrastructure automation, and C++ databases. I am skilled at building reliable services from design to deployment, and possess strong technical documentation and collaboration abilities. I am interested in building high-performance architectures that efficiently utilize given resources.

Education

Yonsei University	Mar 2020 - Aug 2025
B.S. in Computer Science, Mathematics	GPA: 4.02/4.30
University of California, Berkeley	Jan 2023 - May 2023
Exchange Student, Mathematics	GPA: 3.93/4.00
Sejong Academy of Science and Arts	Mar 2017 - Feb 2020
High School for Gifted Students in Math and Science	

Skills

Programming Languages

C/C++, Python, Go, Java

Backend & Communication

Protocol Buffers

AI/ML

PyTorch, LangGraph, RAG

Infrastructure & DevOps

Kubernetes, GCP, Terraform, Docker, GitHub Actions

Monitoring & Observability

Datadog, Cloud Logging

Tools & Collaboration

Git, Linux

Research Experience

Yonsei University Systems Lab	Mar 2024 - Feb 2025
Undergraduate Research Intern (Advisor: Prof. Jinkyu Jeong)	

- Conducted research on modern Key-Value Store databases including LevelDB, RocksDB, and SplinterDB
- Analyzed RocksDB internal storage architecture and achieved 2x write performance optimization through multi-threading
- Flame Graph: Identified performance bottlenecks
- Htop: Analyzed CPU and memory usage
- Shell Scripting: Developed experiment scripts for RocksDB internal architecture analysis

Work Experience

Moloco	Nov 2025 - Feb 2026
Software Engineer Intern (Backend / Infrastructure / DevOps)	

- Designed and deployed a standalone logging and redirection service from ground up, independently handling the entire lifecycle from architecture design to production deployment and monitoring
- **Technical Documentation:**
 - Authored comprehensive Design Document outlining project rationale, architectural decisions, and technology choices
 - Documented trade-offs between different implementation approaches (Cloud Run vs. Kubernetes, logging strategies, error handling patterns)
 - Created technical specifications for service interfaces and deployment workflows
- **Backend Development (Go):**
 - Implemented comprehensive unit tests to validate core business logic and critical functions

- Applied design patterns (Factory, Optional) to improve code maintainability and refactorability
- Defined service interfaces using Protocol Buffers for efficient inter-service communication
- Enhanced error handling and structured logging to improve service reliability
- **Infrastructure & CI/CD:**
 - Validated service architecture on Cloud Run, then deployed to production on Kubernetes (GKE)
 - Built Infrastructure as Code using Terraform for reproducible deployments
 - Automated CI/CD pipeline with GitHub Actions for Docker image builds and Artifact Registry deployment
- **Observability & Monitoring:**
 - Integrated Cloud Logging and Datadog for comprehensive log aggregation and monitoring
 - Established observability practices for rapid troubleshooting and incident response

Projects

Medical Chatbot: RAG-Based Medical Information Retrieval Feb 2025 - Jun 2025
Personal Project

- Implemented a LangGraph-based agent module to generate follow-up questions and drive user re-engagement
- Built a symptom-based recommendation system suggesting the top 3 most probable diseases

Korean AI Speech Recognition Competition Aug 2023 - Nov 2023
Finalist (Top 10 out of 110 teams)

- Developed a speech recognition model on Korean speech datasets, including challenging subsets such as elderly and child speech
- Improved inference performance by lowering CER (Character Error Rate) from 0.424 to 0.339 through PyTorch-based Conformer model architecture experimentation and tuning

Honors & Awards

Merit-based Scholarship	2020-2, 2021-2, 2022-1, 2023-1, 2024-1
Outstanding Scholarship for Academic-Industrial Cooperation	2024-1
High Honors	2020-1
Honors	2021-2, 2022-2, 2024-1

Extracurricular Activities

YAI (Yonsei AI Student Club) Sep 2023 - Jun 2024
Study Group Member

- Studied computer vision and reinforcement learning through hands-on projects
- Participated in collaborative AI research and development activities

Engineering Mathematics Tutor Sep 2024 - Dec 2024
Provided peer tutoring in advanced mathematics for engineering students