

Haesung Lee

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SUMMARY

Computer Science undergraduate with experience in web development, especially backend engineering, and research. Currently interested in backend engineering, blockchain, and operating system development.

EDUCATION

Sungkyunkwan University

Bachelor of Computer Science and Engineering

GPA(Major): 4.14(4.34)/4.5

Suwon, South Korea

Feb. 2022 – Present

EXPERIENCE

Software Engineering Intern

Blockchain Dept., Shinhan Securities

Oct. 2025 – Present

Seoul, South Korea

- Designed and implemented **microservices** for a **high-frequency trading** platform.
- Developed backend services with **Python**, **gRPC**, and **FastAPI** for **trading bots** and researched cryptocurrency arbitrage strategies.

Undergraduate Researcher

Intelligent Embedded Systems Research Lab., Sungkyunkwan University

Aug. 2023 – Feb. 2024

Suwon, South Korea

- Developed a **selective journaling** scheme for the **ext4** file system to dynamically mitigate **fsync latency** based on I/O request intervals.
- Improved **robustness across I/O workloads** (8KiB–4MiB) by keeping **average fsync latency** consistently lower than both **fast_commit** and **normal_only** baselines and reduced **maximum fsync latency** across all workloads compared to baselines.

Artificial Intelligence Engineering Intern

SOYNET Co., Ltd.

Jun. 2023 – Aug. 2023

Seongnam, South Korea

- Analyzed and ported open sourced deep learning models such as **YOLOv7** from PyTorch to an in-house **C++/CUDA** inference engine, achieving **3.5× faster inference** and **2.7× lower GPU memory usage**.
- Trained and fine-tuned deep learning models such as **MagFace** for object detection and segmentation tasks, improving accuracy on internal benchmarks.

PROJECTS

Codedang | *Typescript, Go, NestJS, Prisma, Docker, Redis, RabbitMQ, GraphQL, Git*

Aug. 2022 – Feb. 2024

- Developed **RESTful APIs** for an **online judge** platform using **NestJS** and **Prisma ORM**.
- Refactored legacy admin services from **RESTful API** to **GraphQL**.
- Built a scalable **asynchronous code evaluation system** in **Go** with **RabbitMQ** to handle high-concurrency submissions.

Fin2Vec | *Python, PyTorch, Conda, Matplotlib*

Aug. 2023 – Nov. 2023

- Built a **transformer-based model (Fin2Vec)** that turns **financial time series** data into meaningful embeddings using attention mechanisms.
- Developed **clustering and visualization tools** to analyze stock market trends based on learned embeddings and Bloomberg data.
- Designed an **end-to-end training and inference pipeline** using **PyTorch**, standardizing hyperparameter tuning experiments.

Edged Judger Platform | *C, CMake, Git*

Jul. 2023 – Sep. 2023

- Designed a **lightweight and secure code-judging sandbox** environment for **educational use**, isolating user code execution at the OS level.

TECHNICAL SKILLS

Languages: Go, Python, C/C++, TypeScript

Frameworks: Node.js, NextJS, FastAPI, gRPC, Apollo

Libraries: CCXT, PyTorch, pandas, NumPy, Matplotlib

Developer Tools: Git, Docker, Redis, RabbitMQ, GDB, Postman, Bruno, Linux, Vim