한국어 Download PDF

Lee Cha Hun

Software Developer

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GitHub LinkedIn Website Medium Blog

Introduction

I have gained diverse experience as a web service and infrastructure engineer. I have designed, developed, and operated production services using various technologies such as Python, AWS, Next.js, Docker, FastAPI, and Kubernetes, and I am always considering architectures and patterns that offer high scalability and maintainability.

I am highly interested in open-source projects and strive to apply and contribute to them in various ways. I enjoy broadening my development experience through personal projects and involvement in development communities. I like to share or document useful aspects of my development experiences and have published over 70 technical posts on Medium.

I believe that communication between development and business is most important in service development. I strive for problem-solving and business advancement through proactive and active communication. Based on these principles, I continuously learn, experience, and make efforts to grow into a better developer.

SKILLS

Show All

Languages	• Python	• GO	• TypeScript
	• JavaScript	• HTML/CSS	
Frameworks & Libraries	• FastAPI	• Node.js	• Express.js
	• Next.js	• React.js	• Flask

	• TensorFlow	• Hardhat & Truffle	
Infrastructure & Databases	• AWS	• Kubernetes	• Docker
	• Nginx	• Celery	• RabbitMQ
	• MySQL	• Redis	• Linux
	• Prometheus & Grafana	• Asyncio	
Tools & IDEs	• Vim	• VS Code	• Cursor
	• Git	• GitHub	• GitLab CI
	• Jira	• Confluence	

EXPERIENCE

2024.01 ~ 2024.04

Quantec Investment Advisory

Robo-advisor Automation Developer

- Financial Industry / 2.5 trillion KRW scale robo-advisor startup
- Automated stock market rebalancing algorithms using Dagster / Cloud-native orchestration framework
- Refactored stock rebalancing algorithms for optimized execution speed using Scalene.
- Designed and managed AWS infrastructure and MySQL database monitoring using Grafana & Prometheus

- Designed and managed Kubernetes-based container clusters
- Skill Keywords

Python **Dagster** **Kubernetes** **Docker** **MySQL** **Grafana** **Prometheus** **AWS** **Scalene**

2023.04 ~ 2023.12

Werfen

Middleware Infrastructure Engineer for University Hospital Medical Data

- University Hospital Medical Equipment / Blood coagulation, autoimmune disease, testing equipment IT middleware software infrastructure maintenance and management
- Improved usability according to university hospital needs and close communication with overseas partners
- Maintained and managed Kubernetes-based data management system clusters
- Linux server troubleshooting, updates, and monitoring
- Skill Keywords

Python **Kubernetes** **Oracle** **MS SQL** **ASTM** **HL7** **Linux** **VMware** **C++**

2023.1 ~ 2023.4

mobileapp

Intern

- Collected image training data and model training
- Image analysis and inference using Hugging Face environment
- Configured and managed AWS GPU server with CUDA environment

- Skill Keywords

Python **Yolov7** **Pytorch** **CUDA** **AWS**

Projects

Development and Operation of Quantitative Investment Algorithm

2024.05 ~

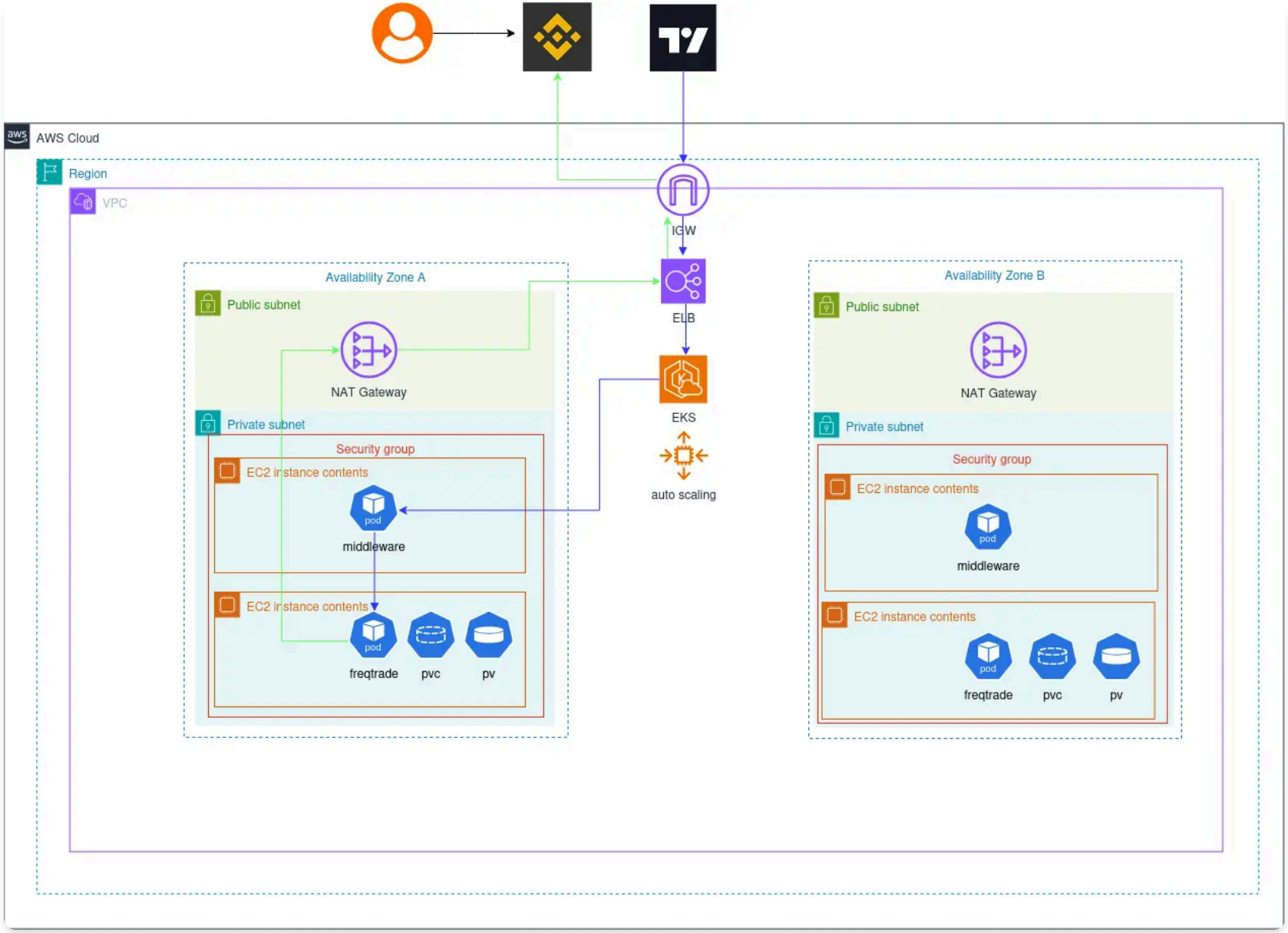
crypto-build (Solo project)

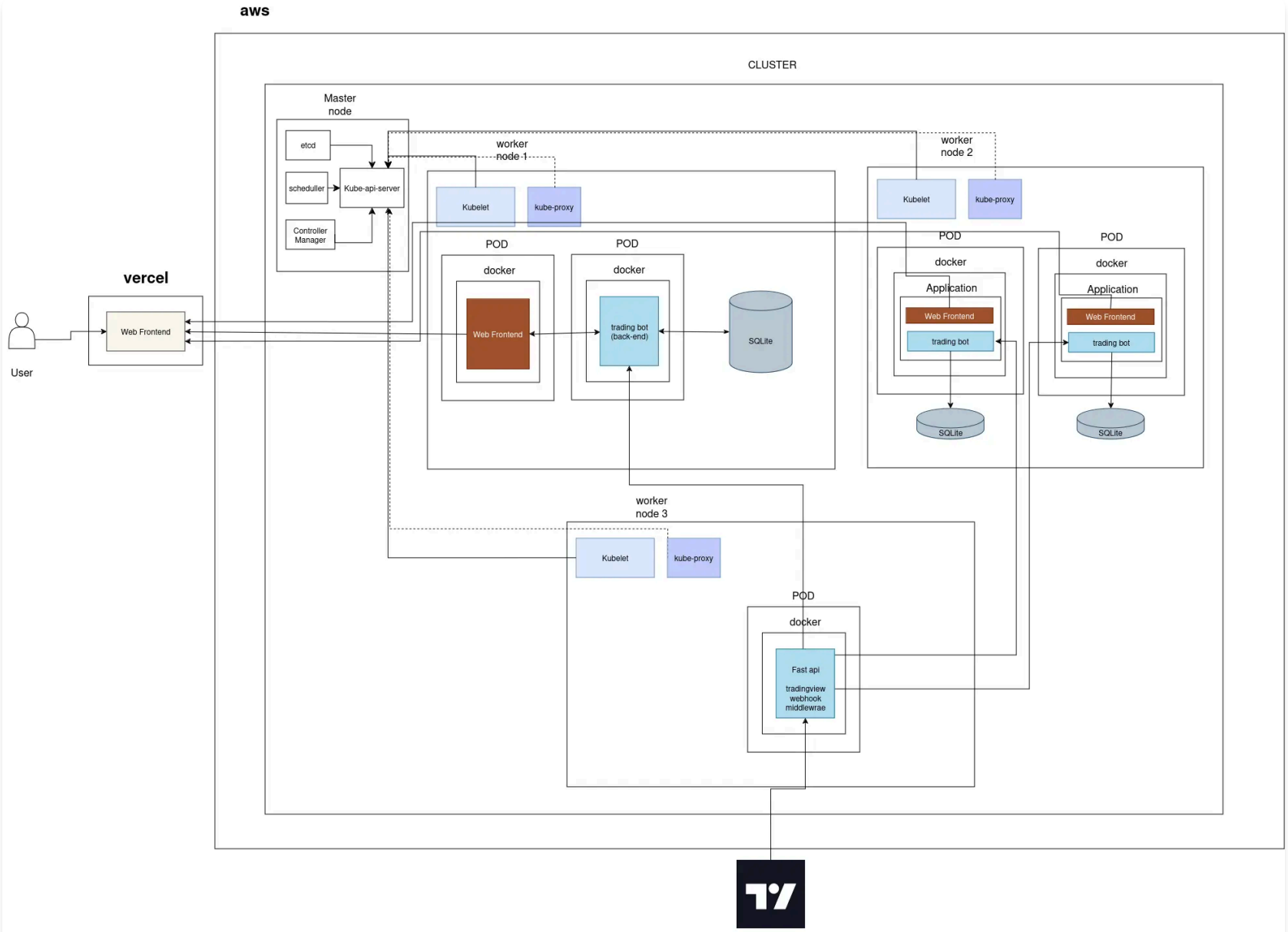
• Launched Quant investment fund products based on Binance copy trading

• Developed logic that receives trading signals via RESTful API and performs automatic trading according to user accounts

• Applied Ansible parallel execution on 250 AWS servers for algorithm performance comparison experiments, reducing deployment time by N times

• Integrated LemonSqueezy payment system, designed and developed subscription system's access token management DB as a full-stack developer


AWS Cloud
Region
VPC
IGW
ELB
EKS
auto scaling
Availability Zone A
Public subnet
NAT Gateway
Private subnet
Security group
EC2 instance contents
pod
middleware
EC2 instance contents
pod
freqtrade
pvc
pv
Availability Zone B
Public subnet
NAT Gateway
Private subnet
Security group
EC2 instance contents
pod
middleware
EC2 instance contents
pod
freqtrade
pvc
pv


aws
CLUSTER
Master node
etcd
scheduller
Kube-api-server
Controller Manager
worker node 1
Kubelet
kube-proxy
POD
docker
Web Frontend
POD
docker
trading bot (back-end)
SQLite
worker node 2
Kubelet
kube-proxy
POD
docker
Application
Web Frontend
trading bot
SQLite
POD
docker
Application
Web Frontend
trading bot
SQLite
vercel
Web Frontend
User
worker node 3
Kubelet
kube-proxy
POD
docker
Fast api
tradingview webhook middlewrae

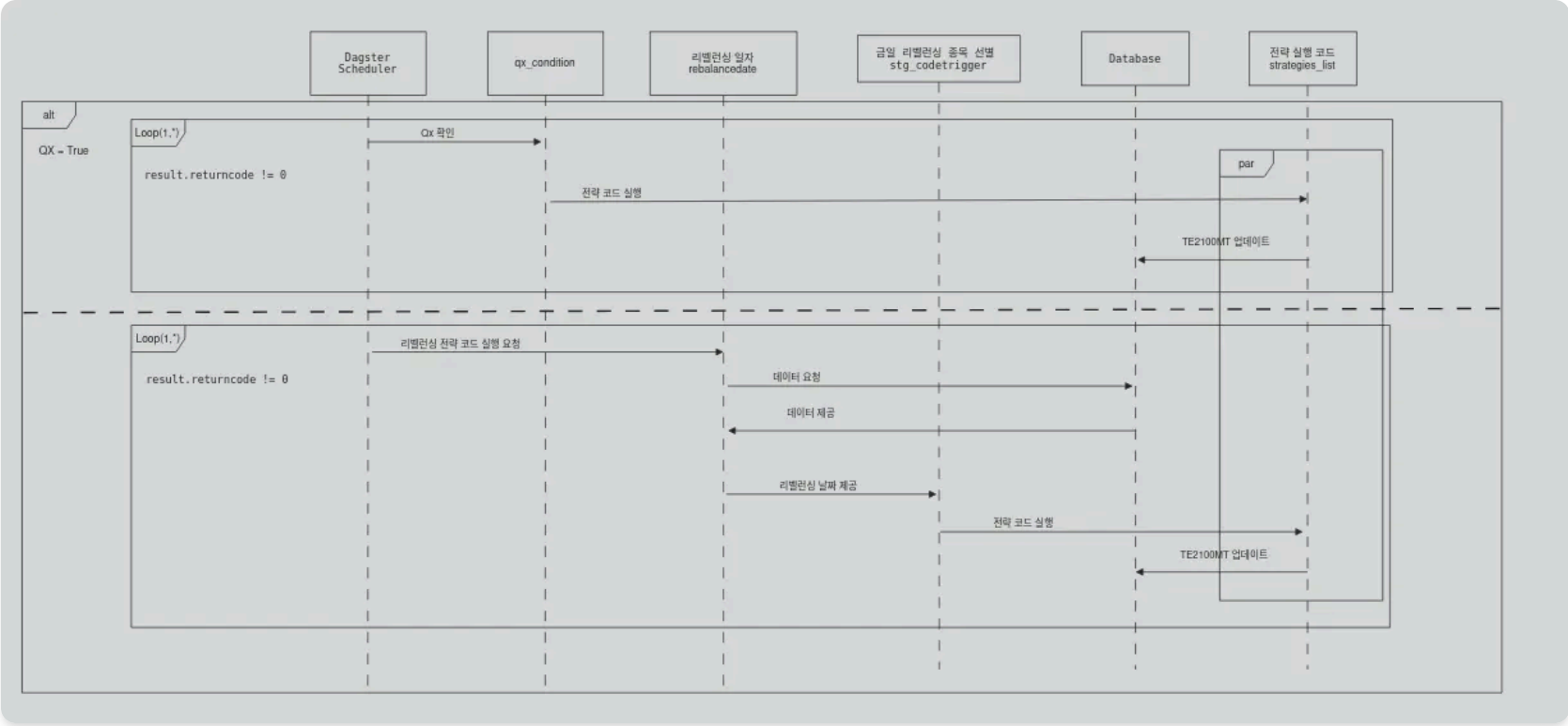
Robo-advisor Rebalancing Automation

GitHub

2024.1 ~ 2024.4

Quantec (Automation team of 3 members)

- Built an orchestration workflow that performs N times monthly rebalancing of U.S. and Korean stocks using Dagster
- Designed ETL tasks for collecting and analyzing stock market data, set up for periodic execution at specified times
- Used Scalene profiler to analyze code execution time and memory usage patterns to optimize the performance of stock rebalancing algorithms
- Identified bottlenecks and optimized inefficient computations, improving data processing speed by N%
- Created monitoring dashboards including metrics such as CPU, memory, network traffic, MySQL query response times, and set up alerts for immediate response in case of issues
- Designed and built a hybrid/high-availability Kubernetes architecture

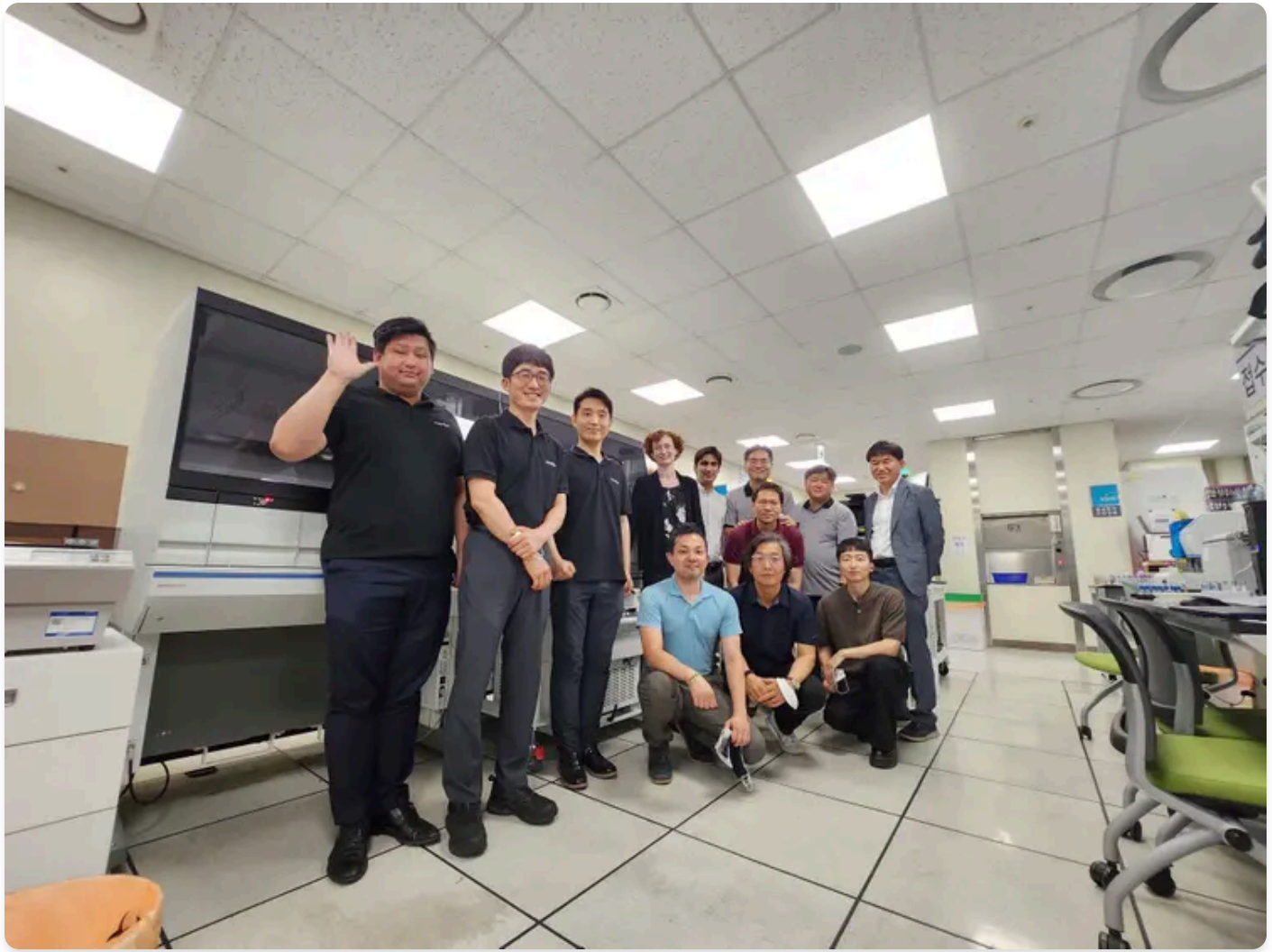


Built Middleware Infrastructure for Samsung Hospital Medical Data

2023.4 ~ 2023.12

Werfen (Team of 3 members)

- Implemented high availability by distributing middleware traffic of Kubernetes clusters with NSX-T in VMware environment, and automatically switching traffic upon failure through health checks
- Activated SSH service on ESXi servers using vSphere Client and carried out security settings
- Wrote SQL query commands to activate Oracle DB asynchronous reception and optimized performance
- Fixed format errors in previous queries, prevented performance degradation and timeouts in synchronous mode, improved MultiOnline result reception speed
- Performed regular troubleshooting and software updates to ensure server performance and stability



Developed Yolov7 Image Analysis Model

2023.01 ~ 2023.4

mobileapp Intern (AI team of 3 members)

• Built GPU-based CUDA environment for YOLOv7 model training

• Collected, processed, and preprocessed data, then split into training/validation/test datasets to perform model training

• Optimized and validated model performance through hyperparameter tuning and testing on test datasets

Fund Subscription Project Using ERC-721 NFT

GitHub

2022.07 ~ 2022.12

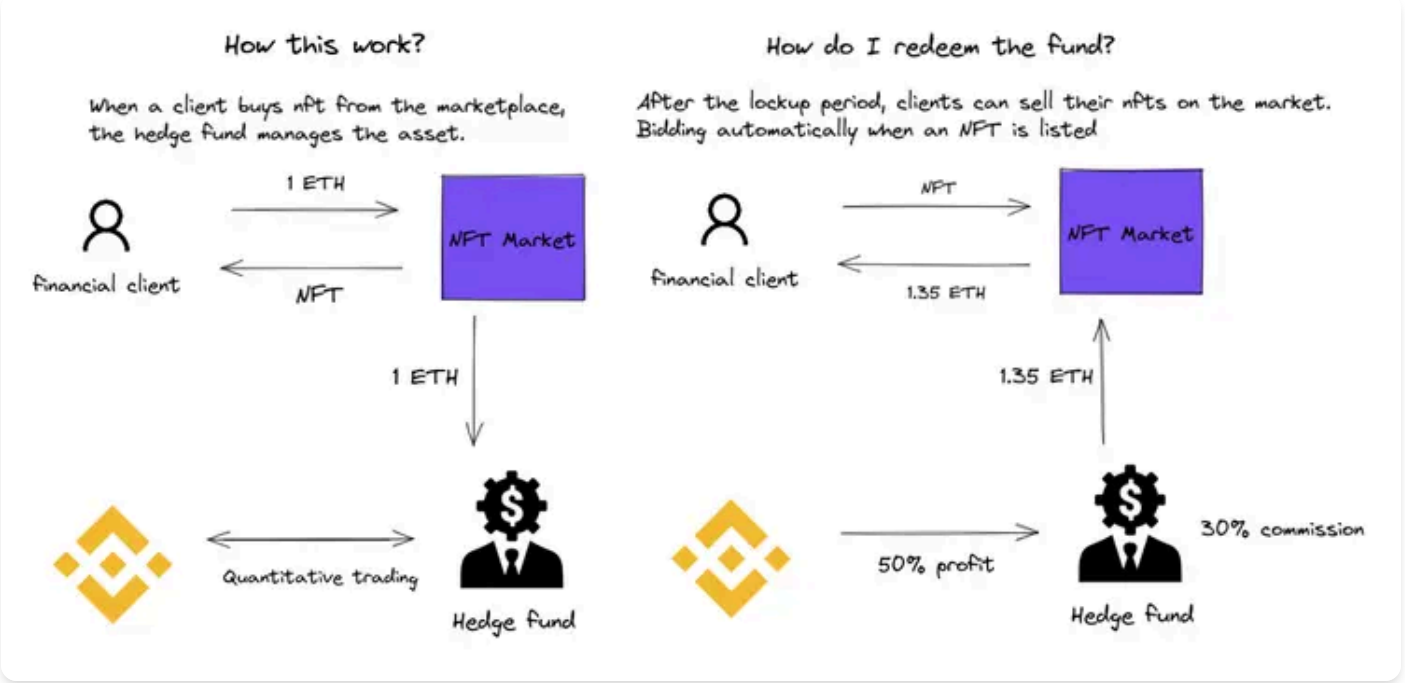
Personal Project

• Implemented ERC-721 standard-based NFT issuance logic using Solidity

• Developed user wallet connection and NFT purchase interface by integrating React with MetaMask

• Built backend using Node.js and Express to manage transaction records and user data, established database with MongoDB

• Deployed and tested smart contracts using Truffle and Hardhat, conducted beta testing on Ropsten Network



VGG19 Image Generator AI Image Synthesis Service

GitHub

2021.12 ~ 2022.02

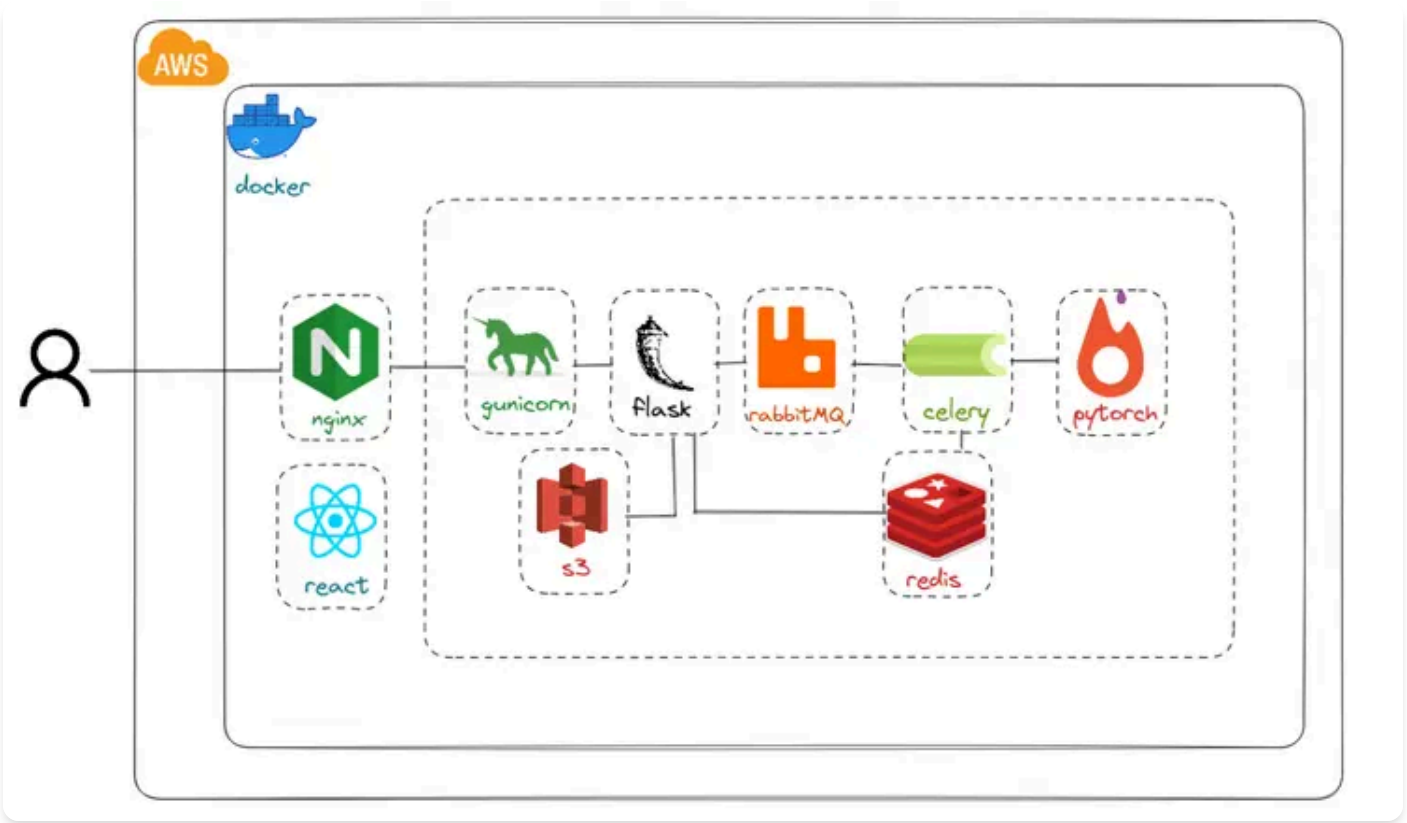
AI Silicon Valley Hackathon (Team of 5 members)

• Implemented image synthesis function by tuning VGG19 model, handled asynchronous processing through RabbitMQ and Celery, and processed multiple requests stably using CUDA GPU

• Experienced various server issues such as GPU server overload, increased API request counts, and performance tuning as a backend developer

• Gained experience as a team leader in setting directions and designs with five developers, and collaborating with other professions

• Service discontinued due to decreased demand with the release of DALL·E 2



OPEN SOURCE

Freqtrade

- Implemented futures functionality and improved leverage features.
- Integrated TradingView platform for enhanced trading capabilities.

GitHub Repository

XMR-Mining with Kubernetes

- Automated XMR mining processes within Kubernetes clusters.
- Enhanced scalability and efficiency of mining operations.

GitHub Repository

Education

AI Silicon Valley Hackathon / Completed 3rd Training Course

2021.12 ~ 2022.02

Team B Leader

Tech University of Korea / Bachelor's Degree in Computer Engineering

2020.03 ~ 2023.02

Certifications

Certified Asset Manager

Korea Institute of Financial Investment

Obtained on 2018-11-23

Additional Experience

Discharged from Army

2018-04-24 - 2020-02-13

Favorite Books

- "Beat the Dealer" - Edward O. Thorp
- "The Man Who Solved the Market: How Jim Simons Launched the Quant Revolution"
- "Principles for Navigating Big Debt Crises" - Ray Dalio