Youngsoo Lee

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🏢 WORK EXPERIENCE

Jul 2021 ~ present

Hyperconnect, Machine Learning Software Engineer

Seoul, Korea

Azar 1:1 matchmaking recommender system *(Oct 2022 ~ Present)*

- *Project summary:* Developing machine learning based recommender system on Azar 1:1 video match, which is the core feature in Azar.
- *Roles:* Backend system design and feature developments.

Feature Store for ML *(Jun 2022 ~ Oct 2022)*

- *Project summary:* Built in-house feature store platform for ML apps to reduce training-serving data skew and to improve productivity.
- *Roles:* Project lead. Solely designed and implemented all the system.
- *Results:* Integrated with various ML applications including recommender systems and moderation systems, and showed immediate model performance & productivity improvements after integration.

Machine learning system for community health *(Apr 2022 ~ May 2022)*

- *Project summary*: Improved community moderation system that quickly detects user who violate community health guidelines in Azar.
- *Roles:* Backend feature developments, bug fixes, and data analysis.
- *Results:* Decreased number of abusers in Azar.

User search system *(Jan 2022 ~ Apr 2022)*

- *Project summary:* Replaced and applied search system in Hakuna Live and to Azar Live, respectively, using elasticsearch.
- *Roles:* Backend system design and feature developments.
- *Results:* Improvements on search feature usage and search accuracy.

Live-streaming recommender system *(Jul 2021 ~ Sep 2022)*

- *Project summary:* Applied machine learning based multi-tenant live-streaming recommender system to Azar Live and Hakuna Live.
- *Roles:* Project lead from Feb 2022 to Sep 2022 (two other engineers were in the project). Backend system design and feature developments, data analysis.
- *Main features:* ML model-based recommender system (ranking system), a/b testing component, multi-tenant data management logic, real-time vision feature pipeline, in-house admin.
- *Results:* Improvements on live-room watching time (compared to heuristic baseline).
- *Etc:* Technical article on [a.1].

Jul 2020
~ Sep 2020

NAVER Corp, Software Engineer Intern

Seongnam, Korea

In-house deep learning model portal for AI research scientists

- *Project summary:* Designed and developed a deep learning model management portal for AI research scientists to increase ML research productivity.
- *Roles:* Backend & frontend system design and feature developments.
- *Results:* All team members (N < 10) used the portal system.

In-house vision model training codebase development

- *Project summary:* Developed the in-house vision model training codebase (PyTorch) and built an automated testing environment specialized for the ML code.
- *Roles:* ML modeling code improvements within guide of the team leader.
- *Results:* Reduced wasted time when running training code, improved CI pipeline.

** Review post after the internship (Korean): https://prev.github.io/posts/AI-SWE-Internship/*

Feb 2019
~ Jul 2019

JENNIFERSOFT, Frontend Software Engineer Intern

Paju, Korea

Monitoring solution for frontend developers

- *Project summary:* Developed performance monitoring solution for frontend developers. (https://front.jennifersoft.com/about)
- *Roles:* Developed frontend part of the product within guide of a senior engineer.
- *Main features:* Real-time dashboard, large-scale table, admin, theme management system.

Jul 2018
~ Aug 2018

Ratchet Cloud, Software Engineer Intern

Vancouver, Canada

Open-source game forum system

- *Project summary:* Developed a game forum system as an open-source which might be used in future projects in the company.
- *Roles:* Backend & frontend system design and feature developments with other intern engineer.

Jan 2015
~ Jun 2016

Freelancer Software Engineer

Seoul, Korea

- Developed various websites and web applications.

EDUCATION

Sep 2019 ~Aug 2021 — **M.S. in Computer Science, KAIST**
Daejeon, Korea

- GPA: 4.0 / 4.3
- Advisor: Sunghee Choi
- Thesis: *Progressive Transmission and Inference of Deep Learning Models Served over Network* (Extended work on [p.2])

Mar 2015 ~Aug 2019 — **B.S. in Computer Science, Hanyang University**
Seoul, Korea

- GPA: 3.97 / 4.5
- Activities and societies: Algorithm Research Club

Mar 2012 ~Feb 2015 — **Korea Digital Media High School**
Ansan, Korea

SOFTWARE DEVELOPMENT SKILLS

Language	**Python**, Scala, TypeScript, JavaScript, Kotlin†, Go†, Java†
Backend	**FastAPI**, **Apache Flink** (streaming), Flask, Express†
Web Frontend	React, SASS, Webpack, jQuery
Database	**Cassandra** (ScyllaDB), MySQL, Redis, DynamoDB†, MongoDB†
DevOps	AWS, Kubernetes, Grafana, Prometheus, Opentelemetry
ML/Data	**BigQuery**, Airflow, Kubeflow, PyTorch†

†: little experience
Bold: main stack

PUBLICATIONS

[p.2] **Youngsoo Lee**, Sangdoo Yun, Yeonghun Kim, and Sunghee Choi, "**Progressive Transmission and Inference of Deep Learning Models**", *20th IEEE International Conference on Machine Learning and Applications (ICMLA),* 2021
https://arxiv.org/abs/2110.00916

[p.1] **Youngsoo Lee** and Sunghee Choi, "**A Greedy Load Balancing Algorithm for FaaS Platforms**", *5th International Conference on Cloud and Big Data Computing*, 2021
https://dl.acm.org/doi/10.1145/3481646.3481657

📂 OTHER EXPEIENCE AND ACTIVITIES

Jul 2016 ~ Oct 2017

SW Maestro Program
Seoul, Korea

- A program operated by Korean government to promote best software engineers and entrepreneurs.
- Awarded as top 8 teams among 33 teams, presented at the "100+ Conference" hosted by Ministry of Science and ICT, and signed MOU with 3 companies based on the technology.

💡 INDIVIDUAL PROJECTS

Feb 2012 ~ Present

Color Scripter
https://colorscripter.com

- Online code syntax highlighting service that helps developers upload their code to their blogs or websites with high readability.
- 10~20k visitors per month, 500+ plugins made by users, 150+ donators supporting this service.

📐 TECHNICAL ARTICLES

[a.2] 머신러닝 어플리케이션을 위한 데이터 저장소 기술, Hyperconnect Tech Blog
https://hyperconnect.github.io/2022/07/11/data-stores-for-ml-apps.html

[a.1] 이벤트 기반의 라이브 스트리밍 추천 시스템 운용하기, Hyperconnect Tech Blog
https://hyperconnect.github.io/2022/01/24/event-driven-recsys.html

Event-driven Live-streaming Recommender System (translated)
https://prev.github.io/posts/event-driven-recsys/

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