Jonghwan Park

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SUMMARY

Software engineering professional with 2+ years of experience in REST APIs, backend, and frontend development.
Machine learning researcher with 2+ years of experience in efficient distributed learning, generative modeling, and LLMs.
Maintained a service platform with 300,000+ daily active users and published 5 ML papers. (3 papers as the first author)

TECHNICAL SKILLS

- **Languages** : React, Typescript, Node.js, Python, Java, Go, Matlab, C++, Swift, GraphQL, PostgreSQL, MongoDB, SQL
- **Software** : AWS (S3, SES, Lambda, EC2), Docker, Kubernetes, Spring Boot, Oracle, Xcode, Android Studio, Git, Maven
- **Libraries** : PyTorch, Numpy, Pandas, Scikit-Learn, Tensorflow, WebTransport, WebRTC, MLFlow, FastAPI, Jax

RELEVANT EXPERIENCE

Software Engineer
Winston Lab of Social Science and Innovation, Los Angeles, CA   *Feb 2025 - Present*
Developed an AI chatbot to automate over 70% of student queries, reducing response time by 90% (**React**, **Sass**)

Graduate Student Researcher
*USC Mark & Mary Stevens Neuroimaging and Informatics Institute**, Los Angeles, CA*   *Mar 2024 - Oct 2024*
*USC Information Sciences Institue**, Los Angeles, CA*   *Jun 2023 - May 2024*
Hanyang University Information and Intelligence Systems Laboratory, Seoul, Korea.   *Feb 2021 - May 2022*
Machine learning research (**Python**, **PyTorch**, **Numpy**, **Pandas**, **Tensorflow**, **Linux**, **Bash**, **Huggingface**)
- Improved model accuracy by up to 30% in identifying clusters of neurodegenerative diseases by refining its cost function.
- Enhanced LLMs in a distributed computing environment with the SNIP pruning method, reducing inference time by 20%.
- Published 5 papers regarding distributed/federated online learning (improved communication costs by up to 99% on DNNs)

Full Stack Engineer
LG CNS, Inc., Seoul, Korea   *Jan 2019 - Feb 2021*
Standardized development-based portal (**Spring Boot**, **Java**, **SQL**, **REST API**, **Javascript**)
- Built a Git-based starter kit with standard templates and reusable code, reducing setup time by 70% for 1,000+ developers.

LG U+ API integration with external companies (**Spring Boot**, **Java**, **SQL**, **REST API**, **Javascript**, **WebSocket**)
- Mobile data plan system integration with Netflix, Kia Motors, Thales, and Boltech (acquired 80,000+ clients).
  - Analyzed project requirements (50+), troubleshot issues, and managed developers as a development manager.
  - Developed APIs (80+) for clients to register, change, or cancel data plans; modeled data.

LG U+ large-scale mobile system development & operation (**Maven**, **Java**, **SQL**, **REST API**, **Javascript**, **Microservice**)
- Maintained a mobile system serving 300,000+ daily active users, identifying and troubleshooting issues in real time.

PROJECTS

Online marketplace (demo) (**Docker**, **React**, **Typescript**, **Go**, **GraphQL**, **PostgreSQL)**   *Jan 2025*

Books Review Diary (demo) (**AWS**, **Docker**, **Nodejs**, **Javascript**, **CSS**, **MongoDB**)   *May 2024*

PUBLICATIONS

Tighter Regret Analysis and Optimization of Online Federated Learning
IEEE Transactions on Pattern Analysis and Machine Intelligence (published)   *Sep 2023*

FedQOGD: Federated Quantized Online Gradient Descent with Distributed Time-Series Data
IEEE Wireless Communications and Networking Conference, Austin, TX, USA (published)   *Apr 2022*

EDUCATION

University of Southern California, Los Angeles, CA   *Dec 2024*
MS in Electrical & Computer Engineering - Machine Learning & Data Science (GPA: 4.0/4.0, MS Honors)

Hanyang University, Seoul, Korea   *Dec 2018*
B.S., Electronic Engineering (GPA: 93/100, First prize for senior team project)