HyunJae Lee

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I am a full-stack machine learning engineer with extensive experience in both research and engineering. My research has consistently focused on solving real-world problems, which has resulted in multiple publications at top-tier conferences. I have established and expanded an MLOps team from scratch to six members, and I led the design and implementation of both a large-scale ML training platform and an automated AI model development framework. I was responsible for the full system design and the initial development, handling backend, frontend, and DevOps all at once. I am passionate about solving real-world problems by bridging the gap between ML research and engineering.

EXPERIENCE

Lunit Inc.

Research Engineer / AutoML Team Leaader

- Established and scaled the team to six members focused on automation and efficiency in ML model development. • Architected and implemented a large-scale, cost-efficient ML platform, leveraging over 1000 GPUs for simultaneous training at a cost reduction of more than 50%. This platform supports nearly 100,000 experiments annually.
- Designed and developed an automated AI model development framework that streamlines the repetitive aspects of AI model creation, enhancing efficiency and consistency.
- Advanced research in Bayesian optimization and pruning algorithms for hyperparameter optimization, resulting in publications and direct integration into our operational framework.

Research Scientist / 3D Mammography Team Leader

- March 2018 July 2021 • Conducted research that addresses the domain gap in both internal and external datasets, significantly enhancing model performance and robustness, leading to publications in top-tier conferences and practical application.
- Developed a 3D Mammography cancer detection AI product from scratch that received FDA clearance.
- Built a complete pipeline including data preprocessing, model development and model deployment.

ConvIoT

Seoul, South Korea

Lead Developer / CEO

June 2016 - July 2017

- Developed and launched a user-friendly IoT platform enabling simple workflow configuration via a web interface. • Integrated a wide range of internet services and IoT devices from diverse vendors, enabling seamless and automated interactions across systems, and secured early investment from Naver.

SELECTED PUBLICATION (800+ CITATIONS)

Bayesian Optimization Meets Self-Distillation	ICCV 2023
HyunJae Lee*, Heon Song*, Hyeonsoo Lee*, Gi-hyeon Lee, Suyeong Park, Donggeun Yoo	
Reducing Domain Gap by Reducing Style Bias	CVPR 2021 (Oral)
HyunJae Lee*, Hyeonseob Nam*, Jongchan Park, Donggeun Yoo	
SRM: A Style-Based Recalibration Module for Convolutional Neural Netw	works ICCV 2019
HyunJae Lee, Hyo-Eun Kim, Hyeonseob Nam	
EDUCATION	
M.S Seoul National University Computer Science and Engineering	Mar. 2016 - Feb. 2018
$\mathbf{B.S} \mid \mathbf{Seoul} \ \mathbf{National} \ \mathbf{University} \mid \mathbf{Computer} \ \mathbf{Science} \ \mathbf{and} \ \mathbf{Engineering}$	Mar. 2012 - Feb. 2016
Honors & Awards	
1st place in Visual Domain Adaptation Challenge	ICCV 2019
2nd place in Embedded Deep Learning Design Challenge	ESWeek 2017
Best Start-up Award	Naver Demo Day 2017

Technical Skills

ML & MLOps: Pytorch, Scikit-learn, Optuna, Vertex AI, MLflow, Kubeflow

Backend Development: Django, DRF, FastAPI, Gin, Celery, Firebase, MySQL, PostgreSQL, Redis, Kafka DevOps & Infra.: Kubernetes, Docker, Terraform, ArgoCD, GitHub Actions, Prometheus, Grafana, Loki, GCP, AWS Frontend Development: React, Next.js, MobX, Vercel, Material UI, Tailwind CSS, Shadcn **Languages**: English (fluent), Korean (native)

Seoul, South Korea July 2021 – Present