Portfolio: Jeayoung Jeon

MLOps/DevOps and AI Engineer (Updated at 2026-02-04)

ABSTRACT

My name is Jeayoung Jeon [전제영], and I'm an AI Platform Engineer in Seoul, South Korea. I also specialize in:

- 🐳 Developing **MLOps (APIs, Pipelines)** and **AI/LLM Platforms** in cloud-native environments.
- 🧙‍♂️ Building **Hybrid Kubernetes Clusters** for **High Availability** and **GPU Cost Reduction**.
- 🧑‍🎓 Contributing decisions for **MLOps/DevOps** using backgrounds in **ML, Computer Vision, Automotive**.

I'm always open to new challenges and opportunities for various fields including **ICT**, **AI**, and **Automotives**. Please feel free to contact me. If you're looking for my brief resume and works, please see my **resume** (/en/profile/resume) .

: **jyjeon@outlook.com**

: **https://jyje.online**

: **LinkedIn: jyje** (https://www.linkedin.com/in/jyje)

: **Github** (http://github.com/jyje)

: **StackShare** (https://stackshare.io/jyje/jyje-pro-stack)

Work

Feb 2025 – *present* (12 Months)

👩‍💻 Intermediate Software Engineer [책임, Professional] at Hyundai AutoEver (https://www.hyundai-autoever.com/eng)

Roles: Lead AI/MLOps Engineer at Development Environment Platform Team, Hyundai AutoEver

- **AI/LLM Platform** Developing enterprise AI platforms and LLM+RAG systems for automotive domain knowledge
- **MLOps** Building ML pipeline infrastructure for software defined vehicles and autonomous driving

Jan 2021 – Oct 2024 (3 Years 10 Months)

👩‍💼 Intermediate Software Engineer [선임-책임연구원] at MAXST (https://maxst.com/ENG/main)

Roles: Lead MLOps/DevOps Engineer at Technology Division, MAXST

- **MLOps/LLMOps** Designed ML APIs and data pipelines. Built RAG+LLM systems for enterprise solutions
- **SRE** Led site & service reliability engineering initiatives for web services and ML workloads
- **Infrastructure** Architected hybrid clusters (AWS EKS + On-Premise) for digital twin platform
- **Algorithm Research** Reviewing computer vision algorithms in state-of-art papers and implementing prototypes

Mar 2012 – Aug 2020 (8 Years 6 Months)

🧑‍🎓 Graduate Student Researcher in Computer Vision at POSTECH (https://eee.postech.ac.kr/)

Roles: Ph.D Integrated Student at Department of Electrical Engineering, POSTECH

- **Computer Vision** Research on hyperparameters for accurate and efficient computer vision algorithms
- **Automotives** Principal computer vision technologies for autonomous driving including ADAS and SLAM; Participated in the development of the Korean government's ADAS research projects
- **FPGA** Efficiently implemented computer vision and machine learning algorithms with real-time parallel matrix processing; SoC-type GPU/NPU accelerator

Projects

Feb 2025 – Oct 2025 (9 Months)

🤖 Codebeamer AI Assistant [PoC] at Hyundai AutoEver

Roles: AI/MLOps Engineer at Development Environment Platform Team ~ In-house development of conversational Agentic AI using RAG and Tools

- **Agentic AI Development** Developed conversational Agentic AI using RAG and Tools for in-house development
- **RAG** Configured knowledge base with various strategic vector stores for context augmentation
- **Tool Integration** Integrated and executed with Hyundai AutoEver's toolchain using MCP tools and domain-specific tools

Results: AI Template Acquisition and AI Planning Direction Acquisition

- **AI Template** Concept verification project for AI full stack, knowledge base, and LLMOps for horizontal expansion of AI projects
- **AI Planning** Promoted agent productization and agent factory initiatives

Skills: Skill Stack for Codebeamer AI Assistant [PoC]

RAG | LLM | VectorDB | MCP | Agentic AI | LLMOps

Jan 2024 – Oct 2024 (10 Months)

👩‍💻 Widearth: Digital Twin & AR Content Platform at Widearth, MAXST (https://widearth.world)

Roles: Lead ML/Infra Roles ~ MLOps/DevOps + ML Backend + SRE [contrib 75%]

- **DevOps & SRE** IaC, GitOps, CI/CD Pipelines, Monitoring, Logging, Notifications, Multi-Deployment, Emergency Response
- **Hybrid Clusters** Public Cloud + On-Premise Kubernetes, API Gateway Pattern, Dynamic VMs, GPU Cost Optimization
- **ML Workloads** ML APIs, ML Pipelines, Data Lakes, Dockerizing, Model CI/CD

Results: Service Launch ~ Small Team, Full Features, More Availability, Less Cost

- **Launch** Launched/Operated a platform as **1 infra engineer** with 15 people, 8 developers in 10 months.
- **Low Cost** Reduced cloud costs by **15M KRW (70%)** by using hybrid clusters for **300+ maps**.
- **Robust Infra** Achieved **96% availability/year and 14d downtime** using hybrid clusters and damage control.

Skills: Skill Stack for Project Widearth

AWS EKS | Kubespray | Python/FastAPI | Argo Workflows | Argo CD | Bitbucket Pipelines | Karpenter

Jan 2024 – Jun 2024 (6 Months)

🧑‍🔬 MLOps: On-Premise MLOps with Open Source Projects at MAXST (https://maxst.com/ENG/main)

Roles: Lead MLOps Engineer ~ Planning + VoC + PoC + ML Workloads/Infra + Operation [contrib 90%]

- **Kubeflow** Integrated Argo Workflows; AutoML, Distributed Training, Model Registry; 16 GPUs Acceleration
- **JupyterHub** Integrated JupyterHub with IDE; Remote GPU Notebook, 4 GPUs Acceleration
- **VectorDB** Milvus, ChromaDB, RAG+LLM Chatbot
- **ML Infra** Setup CI/CD, NAS, Data Lake, Image Registry for ML Workloads

Results: Improved research environment and resource management ~ Increased availability and capacity by merging resources and automating management.

- **Improved Env.** Consolidated servers managed by researchers into k8s to stable infra capacity and stability; Decision-making using PoC.
- **AI Platform** Expanded from VoC of 2 researchers, gradually increased users to 10. Resolved technical debt through continuous MLOps upgrades.
- **GPU Utilization** GPU usage increased by **3 times** and successfully commercialized as a result of performing over **800** AutoML experiments

Skills: Skill Stack for On-Premise MLOps

Kubeflow | Katib | Training Operator | Model Registry | JupyterHub | Argo Workflows | Milvus | ChromaDB | Ollama | Open WebUI | Grafana Stack | TensorBoard

Dec 2022 – Dec 2023 (13 Months)

👨‍🔧 DevOps: Hybrid Clusters for Internal/External Projects at MAXST (https://maxst.com/ENG/main)

Roles: DevOps Engineer ~ Hybrid Clusters + CI/CD + Chatbot + Data Pipelines [contrib 50%]

- **Hybrid Clusters** Public Cloud, On-Premise Kubernetes, Multi-Cluster, API Gateway, IaC, GPU Operator
- **CI/CD** Public CI Platform, On-Premise Custom CI, GitOps CD, ChatOps for Results/Issues
- **Pipelines** Data Pipelines for ML Research, Production Pipelines for ML Inference

Results: Hybrid Cluster Initiation ~ Increased On-Premise Resource Utilization + Reduced Public Resource Costs + DevOps Culture Propagation

- **Cost Reduction** Maintained public availability while reducing costs by **50%** compared to pure cloud infrastructure using on-premises cost-effectiveness.
- **Resource Utilization** Utilized **90% of idle on-premises resources**, provided multi-cluster for prototyping in other departments
- **DevOps Culture** Introduced cloud-native development environment. Propagated DevOps culture including app modernization and CI/CD. Decision support through monitoring.

Skills: Skill Stack for DevOps and Hybrid Cluster

Kubernetes | AWS EKS | IaC | Ansible | Terraform | CI/CD | Bitbucket Pipeline Runners | Argo CD | Argo Workflows | Python/FastAPI | Python/Bolt (Slack)

Jan 2021 – Dec 2022 (2 Years)

📸 Computer Vision Engineer at MAXST (https://maxst.com/ENG/main)

Roles: Associate Researcher ~ Algorithm research for digital twin systems and prototyping [contrib 50%]

- **Digital Twins** Digital twin system implementation using algorithms for converting perspective and 360 images to 3D space.
- **AR/XR** Camera calibration and AR/XR prototype development for various smart glasses
- **Automation** Development of automated pipelines for data acquisition and analysis
- **Military Service** Engaged in position related to graduate school majors and performed alternative military service.

Results: Development of computer vision algorithms and construction of digital twin systems

- **Digital Twins** Research and development of Visual-SLAM and ICP algorithms for digital twin systems
- **Automation** Development of automated pipelines for data acquisition and analysis

Skills: Skill Stack for computer vision research

Computer Vision | Visual-SLAM | SfM | ICP | Python | OpenCV | .NET/C# | Unity

Jan 2012 – Aug 2020 (8 Years 8 Months)

👨‍🎓 Computer Vision and ADAS Researcher (Integrated Program) at POSTECH (https://eee.postech.ac.kr/)

Roles: Graduate Student Researcher ~ Computer Vision and ADAS Research [full-time]

- **2018-2020** *Computing and Control Engineering Lab. (Prof. SH, Han)*
  Digital Twins and Simultaneous Localization and Mapping (SLAM) Research
  - Visual-SLAM Research using Multiple Cameras for Autonomous Driving
  - Prototyping of Digital Twins for ADAS and SLAM
  - Virtual Visual-SLAM for Real-World Environments
- **2012-2018** *Advanced Signal Processing Lab. (Prod. H, Jeong)*
  Advanced Driver Assistance Systems (ADAS) and Edge Computer Vision Research
  - High-Performance, Efficient FPGA Implementation of ADAS
  - High-Speed Algorithm Development for Traffic Signs and Road Terrain Detection
  - Research on Stereo Vision Algorithm for 3D Depth Estimation
  - Stereo Vision-based Online Calibration for Vehicle Cameras
  - Optimization Algorithm Research for Computer Vision using Cost Aggregation Table

Results: Proejcts and Research Papers ~ Studying on Automotive Simulations in Virtual Environments and ADAS On-Edge.

- **Digital Twins** Virtual Visual-SLAM for Real-World Environments
- **Edge ADAS** Research of ADAS including Traffic Sign Detection & Lane Terrain Detection with FPGA

Skills: Skill Stack for Computer Vision and ADAS Research

Computer Vision | Digital Signal Processing | Automotives | Autonomous Driving | Advanced Driver Assistance Systems (ADAS) | Finite Programmable Gate Array (FPGA) | Traffic Sign Detection | Lane Terrain Detection | MATLAB/Simulink | C/C++

Skills

SUMMARY

Here are my skills and highlighted items are industry-ready.

GenAI & LLMOps :

Public/On-Premise LLM | RAG | MCP | Agentic AI

MLOps :

Kubeflow | AutoML Katib | Training Operator | JupyterHub

DevOps & SRE :

Kubernetes | On-Premise | AWS EKS | GCP GKE | Hybrid Clusters | ARM64 | IaC | Kubespray | Terraform | Ansible | Istio | Grafana Stack | Karpenter

CI/CD/CT/CT :

Argo Projects | Bitbucket Pipelines | GitLab CI | GitHub Actions | Self-Hosted Runner | Kaniko | Buildah | Locust | Litmus

ML Backend :

Python/FastAPI | Python/LangGraph | Ollama | Milvus | PostgreSQL | Redis

Computer Vision :

Automotives | SLAM | PyTorch | OpenCV | FPGA

UI/UX :

Slackbot | Python/FastUI | Open WebUI | Vercel AI SDK | .NET/MAUI | .NET/WPF | Unity

Programming languages :

Python | .NET/C# | C/C++ | MATLAB

Education

Mar 2012 – Aug 2020 (8 Years 6 Months)

🎓 **Master's Degree (Integrated Program)** in **Department of Electrical Engineering, Signal Processing & Computer Vision** from **Pohang University of Science and Technology (POSTECH)** with GPA of **3.2/4.3**

- Thesis: Virtual Visual-SLAM for Real-World Environments, 2020

Mar 2008 – Feb 2012 (4 Years)

🎓 **Bachelor's Degree** in **School of Electronic Engineering, Electronic Communication** from **Kumoh National Institute of Technology (kit)** with GPA of **4.3/4.5**

- Thesis: A Study on a Visible Light Communication using LED in Under-water Environment, 2011

Awards

May 2014

🥇 **Altera Design Contest 2014, Excellence Prize** from **Intel-Altera Korea**

[System] FPGA, Vision-Based Driver Support Navigation System

May 2014

🥇 **Best Poster Session in Workshop** from **KYUTECH-POSTECH Joint Workshop**

[Poster] Iterative Polygon Detection using Harris Corner Space Method for Finding Traffic Signs

May 2013

🥈 **Altera Design Contest 2013, 2nd Prize** from **Intel-Altera Korea**

[System] FPGA, Vision-Based Traffic Sign Recognition System

Feb 2012

🥇 **Highest Honors in Undergraduate School** from **Kumoh National Institute of Technology**

[Summa Cum Laude] Highest Honors in Undergraduate Electronic Engineering School

Jan 2012

🥇 **NAVER Power KiN 2011** (https://m.site.naver.com/1y6qP) from **NAVER**

[Activity] Knowledge Export in `Electronics Engineering, Mathematics and Programming fields`. Active 2009-2011, Selected as a MVP in 2012 / Total number of answers 723, Selection ratio 98.1%

Publications

Jul 2020, POSTECH, Thesis (1st)

🎓 **Virtual Visual-SLAM for Real-World Environments** (http://postech.dcollection.net/common/orgView/200000341295) by **Jeayoung Jeon**

Innovative middle-out compression algorithm that changes the way we store data.

Nov 2014, ISVC, Advances in Visual Computing, 10th International Symposium (2nd)

📄 **Cost Aggregation Table: Cost Aggregation Method Using Summed Area Table Scheme for Dense Stereo Correspondence** (https://doi.org/10.1007/978-3-319-14249-4_78) by **JeongMok Ha, Jeayoung Jeon, GiYeong Bae, SungYong Jo & Hong Jeong**

Oct 2014, ICCAS, 14th International Conference on Control, Automation and Systems (1st)

📄 **Polygonal symmetry transform for detecting rectangular traffic signs** (https://doi.org/10.1109/ICCAS.2014.6987934) by **Jea Young Jeon, JeongMok Ha, Sung Yong Jo, Gi Yeong Bae, Hong Jeong**

Apr 2011, ICS-KIEE (1st, equivalent)

🎓 **A Study on a Visible Light Communication using LED in Under-water Environment** (https://www.dbpia.co.kr/Journal/articleDetail?nodeId=NODE01951197) by **Daehee Lee, Ki-Sung Park, Jea-Young Jeon, Yeon-Mo Yang**

Certifications

Oct 2025 (Expired in Oct 2027)

🐳 **KCSA: Kubernetes and Cloud Native Security Associate** (https://www.credly.com/badges/1206ad1c-e348-4328-934d-72e44ca434be) from **The Linux Foundation**

Oct 2025 (Expired in Oct 2027)

🐳 **KCNA: Kubernetes and Cloud Native Associate** (https://www.credly.com/badges/759e92f0-7b3b-4788-8eff-c20ad1e2c645) from **The Linux Foundation**

Nov 2024 (Expired in Nov 2027)

🐈‍⬛ **GitHub Foundations** (https://www.credly.com/badges/876fa6b3-0b27-4ddf-bbb3-a9d853918566) from **GitHub**

Sep 2024 (Expired in Sep 2026)

🐙 **CAPA: Certified Argo Project Associate** (https://www.credly.com/badges/ee42c2c7-2ac3-411f-8713-cc26cbec8022) from **The Linux Foundation**

Jun 2024 (Expired in Jun 2026)

🐳 **CKAD: Certified Kubernetes Application Developer** (https://www.credly.com/badges/9e072a3a-57d0-403e-8bef-5831d618675c) from **The Linux Foundation**

Mar 2024 (Expired in Mar 2027)

🐳 **CKA: Certified Kubernetes Administrator** (https://www.credly.com/badges/d944bde7-222a-4ce5-b4e6-4e6c84df0ef8) from **The Linux Foundation**

Interests

Research/Dev :

Agentic RAG | Digital Twins | AMD-to-ARM Transition | Hybrid Clusters

DevOps Culture :

Coop First, Tech Next | Automate as Possible | Internal Development Platform

Home Clusters :

Raspberry Pies | Personal RAG | Live Demo

Languages

Korean :	Native
English :	Working Proficiency