

# Project Portfolio: Jeayoung Jeon

MLOps/DevOps and AI Engineer (Updated at 2026-01-13)

## SUMMARY

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](https://jyje.online/en/profile/resume) (<https://jyje.online/en/profile/resume>) and [portfolio](https://jyje.online/works) (<https://jyje.online/works>).

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GitHub : [Github](https://github.com/jyje) (<https://github.com/jyje>)

StackShare : [StackShare](https://stackshare.io/jyje/jyje-project) (<https://stackshare.io/jyje/jyje-project>)

## Work

Feb 2025 – present (10 Months)

👷 **Intermediate Software Engineer [책임, Professional]** at [Hyundai AutoEver](https://www.hyundai-autoever.com/eng) (<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 9 Months)

👷 **Intermediate Software Engineer [선임-책임연구원]** at [MAXST](https://maxst.com/ENG/main) (<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 5 Months)

👷 **Graduate Student Researcher in Computer Vision** at [POSTECH](https://eee.postech.ac.kr/) (<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 (8 Months)

### **Codebeam 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 Codebeam AI Assistant [PoC]

[RAG](#) [LLM](#) [VectorDB](#) [MCP](#) [Agentic AI](#) [LLMOPs](#)

Jan 2024 – Oct 2024 (9 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 (5 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 (12 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 (1 Year 11 Months)

### **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 7 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: Projects 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 & LLM Ops :

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 5 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 (3 Years 11 Months)

🎓 **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](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