

# Résumé: Jeayoung Jeon

MLOps and Cloud-Native Engineer (Last modified at 2024-07-16)



## SUMMARY

My name is Jeayoung Jeon [전제영], and I'm a software engineer in South Korea. Currently, I'm working at MAXST as an MLOps, DevOps, and Cloud-Native Software Engineer. I also specialize in:

- Developing Digital Twin Platforms using Cloud-Native APIs and ML pipelines.
- Building Hybrid Kubernetes Clusters with On-Premise and Public Cloud.
- Creating Team Services to enhance productivity through GitOps, ChatOps, and Argo Workflows.
- Leveraging background in Computer Vision, Automotives, and ML to contribute DevOps and decision aligned with business objectives.

I'm trying to identify the best practices to bridge team culture and new technologies. And also, I'm balancing performance and cost reduction optimally. From my experience and achievements, I hope to have a good career. For more details, please visit my portfolio (https://jyje.live).

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🐙 : [Github](http://github.com/jyje) (http://github.com/jyje)

📦 : [StackShare](https://stackshare.io/jyje/jyje-pro-stack) (https://stackshare.io/jyje/jyje-pro-stack)

## Projects

Jan 2024 – Jul 2024 (7 Months)

**Widearth: Digital Twin Platform with Spatial Map & AR Contents at MAXST** (https://maxst.com/ENG/main)

Results: Built Hybrid Clusters, ML Pipelines, and CI/CD Pipeline [contrib 75%+]

- Robust Hybrid Cluster** Achieved '96% availability/year and 50% costdown' using hybrid multi cluster
- ML Pipeline** Designed ML APIs and data pipelines in the multi-cluster environments. Reduces costs of the public cloud by 50%.

Roles: Development of ML pipelines, APIs and Infrastructure

- DevOps** Designed CI/CD pipelines for web servers and ML workloads. Set dev/test/prod environments with GitOps.
- Hybrid Cluster** Built hybrid clusters with AWS EKS and bare-metal Kubernetes. The ML pipelines are executed on on-premise clusters to optimize GPU costs. Backup pipelines are configured on EKS to increase availability.
- ML Pipeline & API** Designed Argo Workflows based ML data pipelines to generate spatial maps. Developed cloud-native API endpoints managing lifecycle of pipelines.

Skills: Core Skills for Project Widearth (https://widearth.world)

AWS EKS Karpenter Python FastAPI Argo Workflows Argo CD

Jan 2024 – Apr 2024 (6 Months)

**On-premise MLOps with the Latest Open Source Projects at MAXST** (https://maxst.com/ENG/main)

Results: Improve GPU utilization for AI research using Argo Workflow, Kubeflow, and JupyterHub [contrib 90%+]

- MLOps** Applied latest open sources to improve the on-premises research environment.
- GPU Utilization** Via 24/7 GPU usage, Increased GPU utilization by 3 times and conducted more than 800 AutoML experiments.

Roles: Built Core MLOps Platform using CNCF Open Source Projects

- AutoML** Making AutoML tuning hyperparameters with Katib and Argo Workflows without pre-build.
- Distributed Training** Developing distributed learning environments using Kubeflow Training Operator.
- JupyterHub** Generating On-Demand JupyterNotebook to distribute resources for ML researchers.

Skills: Core Skills for On-Premise MLOps

Kubeflow Katib AutoML Training Operator Argo Workflows Grafana Tensor Board

## Skills

### SUMMARY

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

MLOps & LLMOps :

Kubeflow Data Pipeline AutoML Katib  
Training Operator JupyterHub PyTorch  
OpenCV Ollama RAG

DevOps :

Kubernetes Argo Workflows AWS EKS  
Kubespray IaC Terraform Ansible  
Grafana Karpenter

GitOps :

CI/CD Argo CD Bitbucket Pipelines  
GitHub Actions Kaniko Docker/Multi-stage  
Slackbot

Application Development :

Python/FastAPI Unit Testing .NET/WPF  
.NET/MAUI Unity

Programming languages :

Python Go C# C/C++ MATLAB

Tools :

Visual Studio Code Visual Studio  
Jupyter Notebook MATLAB/Simulink

OS and Hardware :

Windows WSL2 Ubuntu Alpine MacOS  
ARM64/Raspberry Pi AMD64/Bare Metal FPGA

Jan 2023 – Dec 2023 (12 Months)

Hybrid Cluster DevOps with Chatbot and CI/CD at MAXST (<https://maxst.com/ENG/main>)

Results: Developed Hybrid Clusters using AWS EKS and On-Premise [contrib 75%+]

Roles: Development of Hybrid Clusters, CI/CD Pipelines, and Chatbot

- Hybrid Cluster Built a hybrid cluster with AWS EKS and on-premise Kubernetes. GPU workloads are executed on on-premise clusters to optimize costs. Web and backup workloads are configured on EKS to increase availability.
- IaC IaC with Terraform and Ansible to manage the cluster infrastructure: Terraform to set up AWS EKS cluster. Ansible-based Kubespray to set up on-premises cluster.
- CI/CD Configured fast CI for collaboration using Bitbucket Pipeline. Configured high-performance custom CI using on-premises Argo Workflows. Implemented CD using GitOps with Argo CD and Slackbot.
- DevOps Culture Provided integration and insights for development and operation environments for the research team and business division.

Skills: Core Skills for Hybrid DevOps

Kubernetes    Argo Workflows    AWS EKS    IaC    Terraform

Jan 2021 – Dec 2022 (2 years)

Digital Twin Research Engineer at MAXST (<https://maxst.com>)

Results: Algorithm research for digital twin systems [Contribution 10%]

- 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

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

- Visual-SLAM & SfM Developed digital image processing algorithms for Visual-SLAM and SfM. Constructed a digital twin system using image processing algorithms.
- Technical Research Personnel Engaged in computer vision positions related to graduate school majors and performed military alternative service.

Skills: Core skills for digital twin research

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

Jan 2012 – Aug 2020 (8 Years)

Digital Signal Processing and ADAS Researcher (Integrated Program) at POSTECH

(<https://eee.postech.ac.kr/>)

Results: Studying on Automotive Simulations in Virtual Environments and ADAS On-Edge.

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

Roles: Studying and researching in the field of digital signal processing and computer vision

- 2018 - 2020 Computing and Control Engineering Lab. (Prof. SH, Han)
  - Thesis: Virtual Visual-SLAM for Real-World Environments ([https://postech-primo.hosted.exlibrisgroup.com/permalink/ff/1031dvt/82POSTECH\\_INST21232402040003286](https://postech-primo.hosted.exlibrisgroup.com/permalink/ff/1031dvt/82POSTECH_INST21232402040003286))
- 2012 - 2018 Advanced Signal Processing Lab. (Prod. H. Jeong)
  - Real-Time Advanced Driver Assistance Systems using FPGA
  - Research on Traffic Sign & Lane Terrain Detection
    - Conference: Polygonal symmetry transform for detecting rectangular traffic signs (IEEE ICASS 2014) (<https://ieeexplore.ieee.org/abstract/document/6987934>)

Work

Mar 2024 – present

Senior Software Engineer [책임연구원] at MAXST (<https://maxst.com/ENG/main>)

Roles: Developed On-Premise Clusters Providing MLOps for Technology Division in MAXST

- MLOps Developing on-premise clusters providing MLOps for the AI team.
- DevOps Building hybrid clusters with AWS EKS and bare-metal Kubernetes.
- Hybrid Building on-premise clusters with IaC tools such as Ansible and Kubespray.

Interests



Edge :

Raspberry Pi Cluster

Cluster Optimization :

Karpenter

BI using Grafana (PLG)

CNCF Projects :

Kubeflow

Argo Projects

Languages



Korean :

Native

English :

Working Proficiency



Jan 2021 – Feb 2024 (3 Years)

**Software Engineer** [🇰🇷 선임연구원] at **MAXST** (<https://maxst.com/ENG/main>)

**Roles: Associate R&D Engineer for Technology Division in MAXST**

- Algorithm Research** Reviewing computer vision algorithms in state-of-art papers and implementing prototypes.
- DevOps** Building hybrid clusters and providing data pipelines for digital twins.
- Technical Research Personnel** Serving as a substitute for military service for 3 years, engaging in the industry in the related field of computer vision major.

**Skills**

Kubernetes On-Premise AWS Argo Workflows Data Pipeline CI/CD Computer Vision OpenCV

**Education**



Mar 2012 – Aug 2020

**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**

Mar 2008 – Feb 2012

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

**Certifications**



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**