

JUNGGEUN DO

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EDUCATION

Texas A&M University, College Station, Texas (expected) May 2027

MS in Computer Science

Seoul National University, Seoul, South Korea Aug 2024

BS in Physics; BA in Economics; Minor in Computer Science and Engineering

PUBLICATION

[1] SEAL-pose: Enhancing 3D Human Pose Estimation via a Learned Loss for Structural Consistency
Yeonsung Kim*, **Junggeun Do***, Seunguk Do, Sangmin Kim, Jaesik Park, Jay-Yoon Lee
arXiv preprint ([earlier version](#) presented at ICCV 2025 Workshop SP4V)

[2] ContrastiveMix: Overcoming Code-Mixing Dilemma in Cross-Lingual Transfer for Information Retrieval
Junggeun Do, Jaeseong Lee and Seung-won Hwang
NAACL 2024 (oral)

RESEARCH EXPERIENCE

Structure & Knowledge Injection into Machine Learning Lab, Seoul National University Feb 2024 – Jan 2025

Research Intern (advisor: Jay-Yoon Lee)

- Designed and implemented a training method with trainable loss functions that automatically incorporate human pose structure, improving 3D human pose estimation performance

Language & Data Intelligence Lab, Seoul National University Apr 2023 – Feb 2024

Research Intern (advisor: Seung-won Hwang)

- Designed method to improve zero-shot information retrieval in low-resource languages through code-mixing as data augmentation
- Explored to improve retrieval-based language models for robust open-domain question answering for ambiguous queries

WORK EXPERIENCE

Z.ai Inc., Seoul, South Korea Jan 2025 – Jul 2025

Machine Learning Engineer

- Built and optimized a large-scale dense-sparse hybrid retrieval system for e-commerce search, supporting 10M+ items with sub-second latency (AWS EKS, OpenSearch)
- Designed embedding-based retrieval and ranking pipelines to improve search relevance and recall
- Implemented end-to-end ML serving pipeline (Flask/FastAPI) with production monitoring and scaling
- Developed LLM-powered writing assistant (OpenAI, LangChain, FastAPI) with prompt engineering and RAG, enabling rapid proof-of-concept for targeted content generation and boosting productivity for marketing teams

Gravity Labs Co., Ltd., Seoul, South Korea Sep 2022 – Mar 2023

Software Engineer; founding member

- Developed mobile apps with activity tracking and personalization, reaching 100K+ MAU (React Native, TypeScript)
- Engineered real-time data pipelines and backend services, ensuring transactional consistency and reliability (Node.js, MongoDB, AWS Lambda)
- Collaborated closely with product and business teams to iterate features based on user behavior and metrics

VoyagerX, Inc., Seoul, South Korea Mar 2022 – Aug 2022
Machine Learning Engineer
• Designed optimized deep learning models for text-to-speech synthesis, reducing required training data by 33% while preserving output quality
• Developed GAN-based image generation models and pipelines for a photorealistic hairstyle transfer system

Kakao Enterprise Corp. AI Lab, Seongnam, South Korea Sep 2021 – Feb 2022
Machine Learning Engineer Intern
• Enhanced chat domain-specific machine translation for KakaoTalk (50M+ users) using data augmentation and domain adaptation, increasing BLEU scores while reducing repetition errors

TEACHING EXPERIENCE

Data Structure (M1522.000900), Seoul National University Mar 2024 – Jun 2024
Undergraduate Teaching Assistant
• Taught data structure with examples and answered questions from 120 students

Foundation of Physics 1 (034.005), Seoul National University Mar 2024 – Jun 2024
Undergraduate Teaching Assistant
• Tutored four undergraduate students with no background in physics

SCHOLARSHIP AND AWARD

President's Award for Student Leadership Aug 2024
President of Seoul National University
• Awarded to three of 2822 graduates who have significantly contributed to the development of the university and the local community

Presidential Science Scholarship Mar 2015 – Feb 2020
Korea Student Aid Foundation
• Awarded merit-based scholarship covering full tuition and providing living expenses support, granted to only 120 science and technology majors nationwide

Samsung HumanTech Paper Award Feb 2014
Samsung Electronics
• Received the Bronze award in 'Physics/Earth Sciences' sector for the paper entitled "Method to increase efficiency of wireless transfer system based on magnetic resonance: single and multiple receivers."

LEADERSHIP EXPERIENCE

Military Service, Republic of Korea Army Feb 2020 – Sep 2021
Sergeant
• Commanded 10 soldiers as squad leader and worked as military driver
• Assisted Major General in two ROK/US Combined Command Post Training exercises

Undergraduate Student Government, Seoul National University Dec 2018 – Nov 2019
President
• Worked as the president directly elected by all 20,000 undergraduate students
• Chaired 20-member executive committee and led 100-member executive body

SKILLS

- **Programming:** Python, TypeScript, JavaScript
- **ML/Data:** PyTorch, Scikit-learn, NumPy, Pandas, Polars, MongoDB, SQL
- **Frameworks:** Flask, FastAPI, React, Node.js
- **Infrastructure:** Git, Linux, Docker, AWS (EC2, ECR, EKS, Lambda, S3)