Jehyun Park

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RESEARCH INTERESTS

Theoretical foundations of neural network generalization and optimization
Function space and Circuit based understanding of Neural Networks
Meta-learning and few-shot adaptation in distribution shift scenarios

EDUCATION

Mar 2020 — Feb 2026 ***Sungkyunkwan University*** *Suwon, Korea*
BS., Computer Science and Engineering

EXPERIENCES

Dec 2025 - Present **Research Intern, Seoul National University SNU-PI Lab** *SNU*

- Conducting Research in Optimization, Reasoning
- Optimizing Sequence-Modeling architectures (Transformer, SSMs) and Optimizers
- Multi-modal reasoning with Representation Learning and Reinforcement Learning
- Under the supervision of Prof. *Young Jae Yu*

Mar 2025 — Aug 2025 **Undergraduate Research Intern, Yonsei University ML/AI Lab** *Seoul*

- Conducted Research in Few-shot Learning, Task Vectors, Test-Time-Training
- Implemented algorithms and methods on task vectors in In-Context-Learning
- Focused on Solving Out-Of-Distribution Problem, Catastrophic forgetting
- Under the supervision of Prof. *Kyung Woo Song*

Sep 2024 — Feb 2025 **AI Researcher, The Catholic University of Korea St. Vincent's Hospital** *Suwon*

- Implemented machine learning algorithms for fall risk prediction protocol
- Handled imbalanced patient data with K-NN imputer, t-SNE, Sent2Vec embeddings.
- Implemented Imbalanced-XGBoost based pipeline and achieved the best *f1-score*.

Jun 2024 — Aug 2024 **Undergraduate Research Student, iisLab** *SKKU*

- Participated seminars for subjects such as Diffusion, Active-Learning, Flash-Attention
- Presented in Machine Learning Seminars in iisLab
- Under the supervision of Prof. *Ji Hyung Lee*

Jun 2023 — Aug 2023 **Industry-Academia Collaboration Software Engineer, SOYNET** *Seong Nam*

- Participated in a year-long Industry-Academia Collaboration Project between SKKU & Soynet
- Worked at the Company as a Software Engineer for 2 months
- Ported Pytorch-based models to Tensorflow-based SOYNET Acceleration Engine
- KIST University Person RE-ID model Optimization Applied at National Safety SQI Soft Task

AWARDS & PROJECTS

Aug 2025 — Sep 2025 **2025 Samsung AI Challenge 1st Prize Winner** *Suwon*

- Theme: Methods to Reduce Large Model Size Without Performance Degradation
- ***Individually*** competed on optimizing and compressing Large Language Model
- Implemented *Context-aware-Expert-Merging-and-Pruning* Method on Qwen-30B-A3B Model
- Compressed **30B Parameters to 23.9B** by training-free Expert Merging and Pruning
- **1st prize winner and Awarded 7,500$ from Samsung AI Center**

Jul 2024 — Feb 2025 **20th Korean Economic Securities Derivatives Competition 2nd Place** *Seoul*

- Designed an ETF for IPO stocks in KOSPI & KOSDAQ Stock Market as part of a Team
- Used GMM and t-SNE, Weighted K-NN for for Unsupervised similarity analysis
- Implemented Portfolio Revenue Optimization using convex optimization method
  : Disciplined Convex Programming and SLSQ Programming
- **2nd place and Awarded 4,500$ with Korea Exchange Chairman's Award**

Jul 2024 — Jan 2025 **LLM-based Recommendation System Health care Startup, iKooB** *Seoul*

- "Exploration of AI model architecture based on transfer learning Development of model data management platform" Collaborating with iKooB
- Optimized a finetuned Llama-3 based 8B model on medical domains, implemented TF-IDF method and Chain-of-Thought (COT), Prompt tuning for Prototype model
- Implementation stack: vllm, langchain, ngrok, flask
- **Received Engineering Innovation Award from SungKyunKwan University**

Dec 2023 — Jan 2024 **Winter Global Capstone Design Project, AIIT & SKKU** *Tokyo, Japan*

- Proposed a Mobility Cloud infrastructure solution for the FSD era
- Collaborated with Tokyo AIIT University and participation in seminars and presentations
- Presented an effective construction scenario for signaling system cloud infrastructure for mobility Scenario proposal for integrated cloud and AI-based solutions

Sep 2023 — Dec 2023 **2023 NH Investment & Securities Big Data Competition *Finals*** *Seoul*

- Designed and trained a Vanilla Transformer Encoder for correlation analysis (Fin2Vec)
- Used 1D-CNN, GRU for stock price data compression and tokenization
- Implemented Self-Supervised Learning algorithm based on Self-Distillation and EMA (data2vec)

Jun 2023 — Dec 2023 **Development of SNS platform exclusively for college students** *SKKU*

- Sungkyunkwan University Startup Support Group: A SNS App development project: (CLIPPED)
- Participated as a Project Manager and Frontend Developer
- Implementation stack: Flutter, AWS, next.js

Jan, Sep 2020 / Sep 2023 ***Sungkyun Software Scholarship* for bachelor's scholarship** *SKKU*

- *Sungkyun Software Scholarship* Received from SungKyunKwan University
- **3000$ for each 3 Semesters, total amount of 9000$ scholarship received.**

PUBLICATIONS

Adaptation in Out-Of-Distribution via Sparse Autoencoders in Vision Transformers
Korean Institute of Information Scientists and Engineers 2025 (bachelor's thesis')
Je Hyun Park*

Development of an Artificial Intelligence Algorithm for Fall Prediction (Poster Presentation)
Korean Society of Medical Informatics (KOSMI) Fall Conference, November 2025
Jaheon Park*, Yeon Woong Chung, M.D., Ph.D.†‡, Seung Hyun Ko, M.D., Ph.D. Ph.D.**§**

Development of an Artificial Intelligence Algorithm for Fall Prediction (Poster Presentation)
Korean Society of Artificial Intelligence in Medicine (KOSAIM) Annual Conference, October 2025
Yeon Woong Chung, M.D., Ph.D.†‡, **Jaheon Park***, Seung Hyun Ko, M.D., Ph.D. Ph.D.**§**

SKILL

Programming

Python	Various machine learning & processing libraries such as Pytorch, scikit-learn, Numpy, cupy, cxypy	3
C, C++	Conducted many system-architecture college projects XV6, Spike-simulator, ns3, mini-shell	2
CUDA	Optimization of pytorch functions : im2col, and XGBoost Minimal Variance Sampling methods	1
Next, Node.js	Web Projects using Next.js and Node.js with tailwind-css	1
Flutter	Developed front-end app for the SNS platform	1

Language

Korean (Native)
English (Fluent) (TOEIC: 930)