

Dongyeop Lee

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EDUCATION

Pohang University of Science and Technology (POSTECH)

Pohang, Korea

Master's Student in Artificial Intelligence (Advisor: Namhoon Lee)

Mar 2023 - Aug 2025

Kyungpook National University

Daegu, Korea

Bachelor's Degree in Electronics Engineering

Mar 2017 - Feb 2023

EXPERIENCE

Google

Seoul, Korea

Student researcher

Sep 2024 - Nov 2024

- Working on various techniques to improving sparsified large language models without full fine-tuning.
- Exploring ways to conduct post-pruning reconstruction with small amount of calibration data.

Large Language Model pruning reconstruction Gemma Jax/Flax

Brain AI Lab, Kyungpook National University

Daegu, Korea

Undergraduate researcher (Advisor: Sangtae Ahn)

Feb 2022 - Dec 2022

- Studied multi-modal vision-language modeling
- Explored automatic prompting of stylized text into form suitable for image generation.

Multi-modal Diffusion models Pytorch

SKT AI Fellowship Program

Online

Research Fellowship

June 2022 - Oct 2022

- Selected as 4th SK Telecom AI Fellowship for topic on Language-Image Multi-modal AI Technology Research.
- Developing image synthesis model fine-tuned for illustration generation from chat-styled input text for active service deployment.

Multi-modal Stable Diffusion CLIP Chatbot Huggingface

PUBLICATIONS

Preprints

[P1/W] Critical Influence of Overparameterization on Sharpness-aware Minimization

Sungbin Shin*, **Dongyeop Lee***, Maksym Andriushchenko, and Namhoon Lee

- Under review
- Preliminary version accepted at ICML Workshop on High-dimensional Learning Dynamics, 2023
- **Best Paper Award**, The 8th Joint Conference of Korean Artificial Intelligence Association, Dec 2023

Domestic conference papers

[DC2] Image Synthesis using In-Context Learning

Gangwon, Korea

Seunghun Lee, Eunchan Lee, **Dongyeop Lee**, and Sangtae Ahn

2023

- The Symposium of Brain and Artificial Intelligence, Feb 2023

[DC1] STARGen: Story to Art Generation using Fine-tuned Stable Diffusion

Seoul, Korea

Seunghun Lee, **Dongyeop Lee**, Eunchan Lee, and Sangtae Ahn

2022

- The 7th Joint Conference of Korean Artificial Intelligence Association, Nov 2022

AWARDS & SCHOLARSHIPS

- 2023 **Best Paper Award**, Joint Conference of Korean Artificial Intelligence Association 2023 *Seoul, Korea*
- 2017-22 **National Scholarship of Excellence (Science & Eng.)**, The Ministry of Science and ICT and the Korea Student Aid Foundation

PROJECTS

Malet: a tool for machine learning experiment 2023 - 2024

- Malet (*Machine Learning Experiment Tool*) is a Python package for efficient machine learning experiment execution, logging, analysis, and graphing.
- It supports easy sweeping and parallelization of hyperparameter grids, flexible logging and resuming, and various data plotting tools for analysis.

Python PyPI Package Hyperparameter Grid search Logging Plot

In-context prompt tuning for stylized image generation based on conversational text 2022

- Develop image synthesis model fine-tuned for illustration generation from chat-styled input text for active service deployment.
- Tested multiple text-to-image generation architectures such as auto-regressive and CLIP-based diffusion schemes.
- Explored various fine-tuning strategies for stylized generation and various performance-enhancing prompt tuning.

Prompt tuning Image generation Chatbot

KiDuck: A virtual pet nurturing HW/SW platform for hospitalized school-age children 2022

- Part of capstone design project.
- Developed an Arduino-based handheld device with various sensors to encourage various activities such as water consumption, walking distance, and interaction with peers.
- Has various communication sensors such as Bluetooth, infrared sensors, and WIFI with smart-bottle water consumption tracking, other devices for social interactions, and smartphone for easy management by parents, respectively.
- Contribution: designed main software (GUI and logic) and circuits for handheld device.

Arduino C++ Embedded GUI

TEACHING EXPERIENCE

Teaching Assistant, POSCO AI Experts Training Program

- Topic: Machine learning and deep learning

SKILLS

Programming Languages: Python, C, C++, Java

Markup Languages: Markdown, \LaTeX

Tools: Git, Jax/Flax, Optax, PyTorch, NumPy, Pandas, Matplotlib