

DONGKYU CHO

Machine Learning Researcher at LG AI Research — Ph.D. student at NYU

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EDUCATION

New York University

Ph.D. in Computer Science

New York City, New York

September 2024 –

Seoul National University

Master of Science in Data Science, advised by Prof. Sanghack Lee

Seoul, South Korea

March 2021 – August 2023

- Research Assistant at Causality Lab
- Thesis: Learning to ignore- Single Source Domain Generalization via Oracle Regularization

Seoul National University

Bachelor of Arts in Western History | Information Science and Culture (Interdisciplinary Major)

Seoul, South Korea

March 2014 – February 2021

- Undergraduate Student Researcher on Computational Linguistics for Historical Analysis
- Graduated with Distinction (Cum Laude)

RESEARCH EXPERIENCE

LG AI Research

Research Scientist Intern

Seoul, South Korea

July. 2023 –

- *Research Area:* Foundation Models (Time-Series/Language), Loss Landscapes, Model Alignment
- *Projects:* Foundational Framework for Long Term Time-Series Forecasting, Causal Discovery in Time-Series Data

Seoul National University

Graduate Research Assistant, advised by Prof. Sanghack Lee

Seoul, South Korea

2021 – 2023

- *Research Area:* Causality, Causal Representation Learning, Out-of-Distribution Generalization
- *Projects:* Continual-learning framework for Financial Language Models (with NH Investments), Causal Language Models (with LG AI Research), Semi-Supervised Federated Learning Frameworks, Vision-Language Models

DaumSoft

Data Analyst Intern

Seoul, South Korea

Jan. 2019 – Feb. 2019

- *Research Area:* NLP-based Market Sentiment Analysis

SELECTED PUBLICATIONS

*: co-first author

2 A+ conference workshops — 1 preprints

Cho, D., Lee, S. (2023). Learning to ignore: Single Source Domain Generalization via Oracle Regularization, Accepted at *NeurIPS 2023, Causal Representation Learning Workshop*

Cho, D., Yang, J., Seo, J., Bae, S., Kang, D., Park, S., Choe, H., Ahn W., Lim, W. (2024). ShERPA: Leveraging Neuron Alignment for Knowledge-preserving Fine-tuning, Accepted at *ICLR 2024, Workshop on Mathematical and Empirical Understanding of Foundation Models (ME-FoMO)*

Cho, D., Hwang, I., Lee, S. (2024). Is Data Augmentation Reliable for Generalization?, *Submitted*

Cho, D., Yang, J., Seo, J., Bae, S., Kang, D., Park, S., Choe, H., Lee, J., Lim, W. (2024). Demystifying the uniqueness of Time-Series Data., *Working Paper*

TEACHING EXPERIENCE

Deep Learning and Machine Learning II, Teaching Assistant

Fall 2022

- Assisted graduate course on statistical learning methods (e.g., Bayesian Frameworks).

Data Science Bootcamp, Teaching Assistant

Winter 2021

- Assisted Undergraduate students with the introduction to machine learning.
- Lab sessions on machine learning libraries (e.g., Pytorch), Assignment design

PROJECTS

Stock Interrelation Research using Keyword and Supply Chain data *Seoul National University and NH Investment & Securities Collaborative Research* *July 2021 – August 2022*

- *Research Area:* Natural Language Processing, Continual Learning, Financial Language Models
- A continual-learning based pipeline for a Financial Language Model
- Interactive Graph Database using the Bloomberg Supply Chain Data & Financial Corpus
- Launched as an app feature in the trading app of NH Investment & Securities

Towards Language Models Capable of Causal Reasoning

Collaborative Research

Seoul National University and LG AI research

August 2022 – July 2023

- *Research Area:* Natural Language Processing, Causality
- A Causal NLP Project, aborted during process to join LG AI Research.

Class Projects

Seoul National University

- Class Project for *Special Topics in Data Science- Meta Learning*: "Semi-Supervised Federated Learning with Representations"
- Class Project for *Machine Learning for Visual Understanding*: "A combination approach for wikipedia Image/Caption Matching"

PROFESSIONAL EXPERIENCE

LG AI Research, Data Intelligence Lab

Seoul, South Korea

Research Scientist Intern

July. 2023 –

- Worked as a research intern at LG AI Research.

Seoul National University, Causality Lab

Seoul, South Korea

Graduate Research Assistant, advised by Prof. Sanghack Lee

2021 – 2023

- Worked as a research assistant at Causality Lab, Seoul National University.

DaumSoft

Seoul, South Korea

Data Analyst Intern

Jan. 2019 – Feb. 2019

- Worked as a data analyst intern at DaumSoft (now known as VAIV company).

Republic of Korea Army

Icheon, South Korea

Military Interpreter (English-Korean)

Mar. 2016 – Dec. 2017

- Served as military interpreter at the Republic of Korea Army.

INVITED TALKS

- 2023 Student Researcher *Pizza* Seminar, Graduate School of Data Science, Seoul National University

SKILLS AND ACTIVITIES

- **Programming:** Python (PyTorch, TensorFlow, scikit-learn), R, SQL, MLOps Tools (e.g., Docker, WandB, GCP, AWS)
- **Languages:** English (Fluent), Korean (Native), French (Intermediate)
- **Test Scores:** TOEFL: 118 (2020.08), 116 (2022.08)