

DONGKYU CHO

Machine Learning Researcher at LG AI Research — Incoming Ph.D. candidate 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

- Coursework: Machine Learning and Deep Learning for Data Science, Big Data and Knowledge Management Systems, Software Platforms for Data Science, Machine Learning for Visual Understanding, Text Analytics and Big Data, Causal Inference for Data Science, Special Topics in Data Science: Meta Learning, Data Science Capstone Project, Dissertation Research, Special Lecture on Data Science

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

Seoul, South Korea
March 2014 – February 2021

- Computational Linguistics for Historical Analysis
- Graduated with Distinction (Cum Laude)

RESEARCH EXPERIENCE

LG AI Research, Data Intelligence Lab
Research Scientist Intern

Seoul, South Korea
July. 2023 –

- *Research Area:* Time Series Foundation Models, Transfer Learning, Large Language Models
- Transfer Learning via loss landscape shifting.
- Instruction Tuning for Multi-modal (Time-Series & Language) Alignment.

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
- Causality-inspired Out-of-Distribution Generalization.
- Developed and deployed machine learning and deep learning models for industry partners (NH Investments & LG AI Research).

DaumSoft
Data Analyst Intern

Seoul, South Korea
Jan. 2019 – Feb. 2019

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

SELECTED PUBLICATIONS

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). PEER-Reviewing Data Augmentation for Single Source Domain Generalization, *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

Research Scientist Intern

Seoul, South Korea

July. 2023 –

- Worked as a research intern at LG AI Research.

Seoul National University, Causality Lab

Graduate Research Assistant, advised by Prof. Sanghack Lee

Seoul, South Korea

2021 – 2023

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

DaumSoft

Data Analyst Intern

Seoul, South Korea

Jan. 2019 – Feb. 2019

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

Republic of Korea Army

Military Interpreter (English-Korean)

Icheon, South Korea

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)