

# DONGKYU CHO

Machine Learning Researcher at LG AI Research, Seoul, South Korea

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## EDUCATION

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### 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

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### 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

\*: co-first author

1 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., Choe, H., Park, S., Ahn W., Lim, W. (2024). ShERPA: Shifting basin for Enhanced Robustness via Permuted Activations, Preprint, To be submitted to *ICML 2024*

## TEACHING EXPERIENCE

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### 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

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**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*

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

*Seoul National University and LG AI research*

*August 2022 – July 2023*

### **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**

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### **LG AI Research, Data Intelligence Lab**

*Research Scientist Intern*

- Worked as a research intern at LG AI Research.

*Seoul, South Korea*

*July. 2023 –*

### **Seoul National University, Causality Lab**

*Graduate Research Assistant, advised by Prof. Sanghack Lee*

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

*Seoul, South Korea*

*2021 – 2023*

### **DaumSoft**

*Data Analyst Intern*

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

*Seoul, South Korea*

*Jan. 2019 – Feb. 2019*

### **Republic of Korea Army**

*Military Interpreter (English-Korean)*

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

*Icheon, South Korea*

*Mar. 2016 – Dec. 2017*

## **INVITED TALKS**

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

## **SKILLS AND ACTIVITIES**

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- **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)