

이 경 은 Kyungeun Lee

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CURRENT POSITION

Assistant Professor 2025.9 – PRESENT
Department of Artificial Intelligence, Inha University

Research Focus:

- Information-theoretic analysis of learned representations
- Development of tabular prediction models for real-world applications
- Multimodal learning with tabular data and other data modalities

EDUCATION

Seoul National University, Seoul, South Korea 2016.9 – 2023.2
Ph.D. in Department of Intelligence and Information
(Advisor: Wonjong Rhee)
(Thesis: Understanding Mutual Information in Contrastive Representation Learning)

Seoul National University, Seoul, South Korea 2010.3 – 2014.2
Bachelor in Civil and Environmental Engineering

Kangwon Science High School 2008.3 – 2010.2
Early graduation

CAREERS

LG AI Research, Seoul, South Korea 2023.1 – 2025.8
AI Researcher, Data Intelligence Lab.

Korea Cyber University/Graduate School, Seoul, South Korea 2024.3 – 2025.2
Visiting professor (Deep Learning, Advanced AI)

Samsung Engineering, Seoul, South Korea 2014.3 – 2015.3
Supervisor engineer

PROJECT EXPERIENCE

Demand response pilot program design and evaluation for 31,615 customers, Seoul National University, Korean Power Exchange, LG Uplus, Encored technologies 2016 – 2018

UTM traffic management system design and construction in low altitude, Seoul National University, KAIST 2017 – 2019

Empirical investigation of the statistical characteristics of deep representations, Seoul National University 2018 – 2019

Information-theoretic analysis of deep representations, *Seoul National University* 2020 – 2022

3D augmentation method for object detection in point-cloud datasets, *Seoul National University* 2022

Anomaly detection and tabular prediction for an automated manufacturing system, *LG AI Research* 2023 – 2025

PUBLICATIONS *(Sorted by date)*

List of papers as **first author**

[1] Kyungeun Lee et al., Range-limited Augmentation for Few-shot Learning in Tabular Data, 31st SIGKDD Conference on Knowledge Discovery and Data Mining - Research track, 2025.

[2] Kyungeun Lee et al., A Benchmark Suite for Evaluating Neural Mutual Information Estimators on Unstructured Datasets, The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS), 2024.

[3] Kyungeun Lee et al., Towards a Rigorous Analysis of Mutual Information in Contrastive Learning, Neural Networks, 2024. (SCIE, IF: 6.0)

[4] Kyungeun Lee et al., Binning as a Pretext Task: Improving Self-Supervised Learning in Tabular Domains, The Forty-First International Conference on Machine Learning (ICML), 2024.

[5] Kyungeun Lee et al., DDP-GCN: Multi-graph Convolutional Network for Spatiotemporal Traffic Forecasting, Transportation Research Part C: Emerging Technologies, 2022. (SCIE, IF: 7.6)

Top 2% of citations and captures among the papers published in the same year

[6] Kyungeun Lee et al., Statistical Characteristics of Deep Representations: An Empirical Investigation, International Conference on Artificial Neural Networks, 2021.

[7] Kyungeun Lee et al., Short-term Traffic Prediction with Deep Neural Networks: A Survey, IEEE Access, 2021. (SCIE, IF: 3.4)

[8] Kyungeun Lee et al., Assuring Explainability on Demand Response Targeting via Credit Scoring, Energy, 2018. (SCIE, IF: 9.0)

List of papers as **co-author**

- [1] S Yoon, S Yoon, H Lee, Y Sim, S Choi, **K Lee**, H Cho, W Lim, Diffusion based Semantic Outlier Generation via Nuisance Awareness for Out-of-Distribution Detection, The 39th Annual AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [2] M Eo, **K Lee**, H Cho, D Kim, Y Sim, W Lim, Representation Space Augmentation for Effective Self-Supervised Learning on Tabular Data, The 39th Annual AAAI Conference on Artificial Intelligence (AAAI), 2025.
- [3] J Shin, J Kim, **K Lee**, H Cho, W Rhee, Diversified and Realistic 3D Augmentation via Iterative Construction, Random Placement, and HPR Occlusion, The 37th Annual AAAI Conference on Artificial Intelligence (AAAI), 2023.
- [4] E Lee, **K Lee**, H Lee, E Kim, W Rhee, Defining virtual control group to improve customer baseline load calculation of residential demand response, Applied Energy, 2019. (SCIE, 10.1)

TEACHING

Inha University, Assistant professor	2025
- 2025 Fall: Natural Language Processing, Probability Theory	
- 2026 Spring: Machine Learning, Artificial Intelligence, Deep Learning (Graduate)	
Korea Cyber University/Graduate School, Visiting professor	2024 – 2025
- Deep Learning, Advanced Artificial Intelligence (Graduate)	
LG AI Research, Mentor	2023 – 2025
- Research mentoring on tabular prediction for quality forecasting (LG Innotek, LG Display)	
Seoul National University, TA	2016 – 2021
- Machine Learning, Deep Learning, Information Theory	
Seoul National University Cooperation R&D Center, Samsung, Data Science Class TA	2019

INVITED LECTURES & OUTREACH ACTIVITIES

Tabular Learning and Prediction (Invited Lecture), Inha University	2025
Tabular Learning (Industry Invited Lecture), LG Display	2025
Understanding and Applications of Artificial Intelligence (Outreach Lecture), Yeouido High School	2025
Tabular Learning (Invited Lecture), Korea Cyber University	2023
What is Artificial Intelligence? (Theory and Hands-on Practice) (Outreach Lecture), Wooseok Middle School	2018

AWARDS & SCHOLARSHIPS

LG Awards , LG	2024
Yulchon AI Young Researcher Scholarship , Seoul National University	2022
Teaching Assistants Scholarship , Seoul National University	2021
Merit-Based Scholarship , Seoul National University	2019
Daerim Suam Scholarship , Daerim Suam Scholarship Foundation	2011 – 2013
Samsung SDS Scholarship , Samsung SDS	2009 – 2013
Merit-Based Scholarship , Seoul National University	2010