Dongbin Kim

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Summary

PhD student at Seoul National University focusing on deep learning and time series analysis, with growing interest in time series foundation models, time-series–language models, and Physical AI.

Education

Seoul National University, Industrial Engineering — Seoul, South Korea
- Advisor: Prof. Jaewook Lee — Mar 2023 – present
- Research: deep learning, time series analysis

Seoul National University, Industrial Engineering — Seoul, South Korea
Mar 2017 – Feb 2023

Publications

- **Kim, Dongbin**, Park, Jinseong, Lee, Jaewook, & Kim, Hoki (2024). Are self-attentions effective for time series forecasting? *Advances in Neural Information Processing Systems*, 37, 114180–114209.
- **Kim, Dongbin**, Park, Youngjoo, Jeong, Woojin, & Lee, Jaewook (2026). Local geometry attention for time series forecasting under realistic corruptions. In *Proceedings of the 14th International Conference on Learning Representations*.
- **Kim, Dongbin**, Lee, Jaewook, & Kim, Hoki (2026). Pattern-guided forecasting framework for metal price prediction with grouping decomposed series. *Financial Innovation*, 12(1), 45.
- Choi, Yujin, **Kim, Dongbin**, & Lee, Jaewook (2025). Temporal consistency ensemble empirical mode decomposition for forecasting practical metal price. *Engineering Applications of Artificial Intelligence*, 158, 111490.

Manuscripts Under Review

- **Kim, Dongbin**, Shin, Geonwoo, Choi, Yujin, Park, Soyeon, & Lee, Jaewook (2026). A locally tokenized generative model for robust time-series watermarking. *Manuscript submitted to NeurIPS 2026*.
- **Kim, Dongbin**, Lee, Seungyun, Shin, Geonwoo, & Lee, Jaewook (2026). Discretizing continuous time series for imputation with masked diffusion training. *Manuscript submitted to NeurIPS 2026*.
- **Kim, Dongbin**, Jeong, Woojin, & Lee, Jaewook (2026). Learning from dynamics: Schedule-free neural Lyapunov control. *Manuscript submitted to NeurIPS 2026*.

Patents

Method and Apparatus for Training Artificial Intelligence Model for Time Series Forecasting, Method and Apparatus for Time Series Forecasting Using the Same — Korean Intellectual Property Office (KIPO)
Application No. 10-2025-0143602 (filed) — Oct 2025

System and Method for Robust Time Series Forecasting Based on Local Geometry Attention — Korean Intellectual Property Office (KIPO)
Application filed (no. pending) — May 2026

Projects

Local Geometry-Based Attention Mechanisms for Time Series Transformers — Sept 2025 – Aug 2027
Principal Investigator, Doctoral Student Research Grant, National Research Foundation of Korea (NRF)

Initial Input Quantity Recommendation System Jan 2023 – Jan 2026
COSMAX — Project lead, model development and analysis

Teaching

Lecturer Seoul, South Korea
- Sungkyunkwan University Fall 2025
- Consumer Big Data Analysis (CON3032, 3 credits)

Teaching Assistant Seoul, South Korea
- Advanced Expert Program in Big Data, AI & FinTech, Seoul National University 2023 – 2026
- Machine Learning & Deep Learning (six semesters)

Teaching Assistant Seoul, South Korea
- HD Hyundai–SNU AI Advanced Program 2023 – 2025
- Nonlinear Time Series Analysis (three semesters)

Teaching Assistant Seoul, South Korea
- Samsung Electronics Data Science Education 2023 – 2025
- Linear Algebra & Optimization (four sessions)

Teaching Assistant Seoul, South Korea
- Korea Banking Institute Data Science Capability Enhancement Program Jan 2024
- Mathematics and Statistical Analysis for Data Science (one session)

Awards

Merit-Based Scholarship (Undergraduate) Seoul National University
Awarded for three semesters: Spring 2021, Fall 2021, Fall 2022. 2021–2022

Merit-Based Scholarship (Graduate, Integrated MS-PhD) Seoul National University
Awarded for three semesters: Fall 2023, Spring 2024, Fall 2024. 2023–2024