

Dongho Kim

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Education

Northwestern University

M.S. in Statistics and Data Science

University of California, San Diego

Exchange Student, Business Economics and Data Science

Dongguk University

B.B.A. in Business Administration; B.S. in Data Science Software

Evanston, IL

Sep 2025 – Jun 2027

San Diego, CA

Sep 2022 – Jun 2023

Seoul, South Korea

Mar 2019 – Feb 2025

Research Interests

Reliable machine learning under uncertainty and distribution shift: statistical evaluation of AI systems, verification-first language-model agents, and representation learning for irregular scientific data.

Publications and Preprints (* equal contribution)

- Ham, M.*, **Kim, D.***, Lee, C.*, Wang, J., Zhao, J., Ye, G., Park, S., Kim, M. J., Zhang, Y., and Liu, H. *SPINE: Bridging the Cyber-Physical Gap with Agentic AI*. Preprint manuscript, 2026.
- Li, W.*, Chen, H.-Y.*, Rehemtulla, N.*, Shah, V., **Kim, D.**, Wu, D., Lin, Q., Miller, A., and Liu, H. *StarEmbed: Benchmarking Time Series Foundation Models on Astronomical Observations of Variable Stars*. ICML 2026 (poster); oral presentation and Outstanding Paper Award, AI4Physics Workshop at ICML 2026; arXiv:2510.06200.

Research Experience

Graduate Research Intern

MAGICS Lab, Northwestern University; Advisor: Prof. Han Liu

Sep 2025 – Present

Evanston, IL

- Co-developed SPINE, a validation-gated debugging agent for bimanual robots that integrates robot-specific profiles, diagnostic subagents, safe tool execution, and live recovery tests.
- Designed blind, matched evaluations with compounded software, hardware, and hybrid faults; SPINE resolved all 24 planted faults across two platforms and reached 100% DOBOT recovery, versus 75% for direct human-LLM debugging.

Research Collaborator

NSF-Simons SkAI Institute, Northwestern University

Oct 2025 – Present

Evanston, IL

- Evaluated zero-shot representations from time-series foundation models on roughly 40,000 expert-labeled, irregular and heteroskedastic astronomical light curves.
- Found that generic pretrained representations excelled at clustering and out-of-distribution detection but did not surpass domain features in classification.

Research Assistant

Intelligence and Optimization in Networks Lab; Advisor: Prof. Hyeryung Jang

Dec 2023 – Aug 2024

Seoul, South Korea

- Built a hybrid RNN-FinBERT pipeline for stock-return prediction across 88 firms, combining price histories with text-derived sentiment features.

Research Projects

Sci2Pol-Agent: Verification-First Agentic Harness for Science-to-Policy Writing

Northwestern University

Mar 2026 – Present

Evanston, IL

- Built a training-free, multi-role agent workflow that routes scientific claims through evidence extraction, support checking, targeted revision, and format control.
- Designed a same-backbone evaluation isolating workflow effects; increased the Sci2Pol-Bench overall score by 2.6 points (95% CI: 0.35–4.70), with gains concentrated in claim verification.

Information Contagion and Market Connectivity

Northwestern University, Computational Social Science

Sep 2025 – Dec 2025

Evanston, IL

- Estimated multilevel and exponential random graph models of NASDAQ firm co-mention networks to study how information diffusion and network structure relate to market outcomes.

Professional and Teaching Experience

Teaching Assistant

Sep 2023 – Jun 2024

Department of Business Administration, Dongguk University

Seoul, South Korea

- Built Excel-based grading and reporting tools for Human Resource and Diversity Management courses.

Operations Assistant

Nov 2021 – Mar 2022

M&E Parts

Seoul, South Korea

- Developed an inventory analytics system to monitor stock levels, identify excess inventory, and support supply planning.

Sergeant, Military Service

Jan 2020 – Sep 2021

Republic of Korea Ministry of National Defense

South Korea

- Managed mission-critical communication equipment and standardized operational-readiness reporting.

Technical Skills

Programming: Python, SQL, Git, LaTeX; Pandas, NumPy, Scikit-learn, PyTorch

Machine Learning: Foundation models, representation learning, LLM agent systems, evaluation and benchmarking, time-series modeling

Statistics and Data: Regression, hypothesis testing, feature engineering, experimental design, network analysis

Visualization: Matplotlib, Seaborn, exploratory data analysis

Awards and Scholarships

- Outstanding Paper Award, AI4Physics Workshop at ICML 2026 (oral presentation), 2026 – *StarEmbed*
- Excellence Award, Seoul City AI Video Content Competition, 2024
- Top 3%, LG AI Research B2B Sales Opportunity Prediction Competition, 2024
- Exchange Program Scholarship, Dongguk University, 2023
- Academic Excellence Scholarship, Dongguk University, 2022

Service and Languages

- International Student Mentor, International Buddy Program, Dongguk University, 2019
- Korean: native; English: professional working proficiency; Chinese: intermediate (HSK Level 4)