

DongJun Lee

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Education

Georgia Institute of Technology

Ph.D. student at H. Milton Stewart School of Industrial and Systems Eng. (ISyE)

Atlanta, USA

Aug. 2025 - Current

• National Science Foundation AI Research Institute for Advances in Optimization (NSF AI4OPT)

• Adviser: Prof. Pascal Van Hentenryck

• GPA: 4.00 / 4.00

Seoul National University

M.S. in Artificial Intelligence

Seoul, South Korea

Sep. 2023 - Aug. 2025

• Data Science & AI Laboratory (DSAIL), Adviser: Prof. Sungroh Yoon

• GPA: 4.25 / 4.30

• Thesis: Selective Feature Memory Integration for Long-Term Temporal Modeling

Seoul National University

B.S. in Mechanical Engineering

Seoul, South Korea

Mar. 2017 - Aug. 2023

• Summa Cum Laude, GPA: 4.03 / 4.30, Upper-Division GPA: 4.20 / 4.30

• Thesis: Fully Autonomous Non-Prehensile Manipulation and Grasping: Model-Based RL

Technical Expertise

Opt./Control

Optimization-grounded sequential decision-making under uncertainty: Deep contextual decision rules for multistage stochastic opt., Proxy solver for stochastic MIP with temporal constraints + Feasibility repair

ML/DL

Deep learning for sequential and distributional modeling: Multivariate probabilistic time-series forecasting, Distribution-based scenario generation, Uncertainty calibration, Decision-aware representation learning

Publications (Total Citations: 461)

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| 2025 | H. Kim, et al., "Causality-Aware Contrastive Learning for Robust Multivariate Time-Series Anomaly Detection," <i>ICML</i> . |
| 2024 | J. Kim*, H. Kim*, et al., "A Comprehensive Survey of Deep Learning for Time Series Forecasting: Architectural Diversity and Open Challenges," <i>Artificial Intelligence Review</i> . (* Equal Contribution) |
| 2024 | D. Lee*, B. Kang*, et al., "Introducing Spectral Attention for Long-Range Dependency in Time Series Forecasting," <i>NeurIPS</i> . (* Equal Contribution) |
| 2016 | D. Lee, et al., "A study on the Posture Based Control of Robotic Fixation Device," <i>International Journal of Applied Engineering Research</i> , ISSN 0973-4562, Vol.11, No.9, pp.6655-6659, 2016. |

Applied Research (Industry & Independent Projects)

Explainable Attention-Based Modeling for Credit Risk Assessment

Equifax

Atlanta, USA

Jan. 2026 - April. 2026

- Built an end-to-end framework for explainable Attention-based credit risk modeling, including hyperparameter tuning, artifact export, and split-aligned saving of internal embeddings for downstream analysis
- Developed PCA/CCA-guided interpretability analyses to connect latent Transformer features with human-defined credit attributes and trace their formation through time-mixing and feature-mixing mechanisms

ATR-Scaled Bracket-Hit Probability Model & Risk-Constrained Trading Agent

Independent Research

Atlanta, USA

Aug. 2025 - Jan. 2026

- Built a leakage-safe, multi-asset market data pipeline (OHLCV); engineered alpha-factor/indicator features; constructed ATR-scaled brackets with hit-first labels and walk-forward CV
- Designed a custom Transformer with patching, learned embeddings (asset/time/feature), RoPE, and FiLM; multi-task heads produce calibrated class probabilities over ATR-scaled bracket grids
- Converted bracket posteriors to trades via thresholded, risk-adjusted expected-value rules with volatility-scaled sizing; developed end-to-end cost/slippage-aware backtests with exposure and drawdown limits

Development of an Integrated Control Process Using MBD big-data and Optimization Proxies for Improved Driving Performance

Hyundai

Seoul, South Korea

Mar. 2025 - July. 2025

- Automated generation of optimal transmission-control calibration maps, replacing per-vehicle heuristic tuning
- Phase 1: Developed a constraint-driven, physics-consistent model-vehicle matching pipeline—matched simulation to road data over multi-gear, multi-throttle operating points

Anomaly Detection of Low-Voltage Defects in Electric Vehicle Batteries

LG Energy Solution

Seoul, South Korea

Aug. 2024 - Jun. 2025

- Process-aware tokenization for variable-length charge-discharge series; custom contrastive loss/training for extreme imbalance and noisy labels
- Multimodal ensemble—fusing expert-engineered tabular features with time-series embeddings

AI-Based Calibration Value Determination for Simultaneous Optimization of 6th Harmonic Noise in Front/Rear Motors and Battery

Hyundai Genesis

Seoul, South Korea

Mar. 2024 - Oct. 2024

- Mitigated 6th-harmonic torque ripple/noise from non-linear back-EMF via traction-motor calibration
- Developed DL-based solution to predict optimal calibration maps from sparse operating-point data, reducing full manual sweeps

Work Experience

PricewaterhouseCoopers Consulting

Associate Consultant Internship

Hwaseong, South Korea

Jul. 2023 - Jul. 2023

- Consulting project with Logic, DRAM, Flash R&D department of the global top semiconductor company (Company name confidential due to NDA)

Product 2 Team, Research Division, OnePredict Inc. (CEO / Prof. Byeng Dong Youn)

Data Scientist Internship

Seoul, South Korea

Jun. 2021 - Jul. 2021

- Developed a DL-based algorithm for analyzing the vibrations and operational data of a turbine power plant system to diagnose possible failures