Jeehong Kim

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RESEARCH INTEREST

I am interested in designing broadly applicable machine learning techniques for graph-based problems, especially in heterophilous and anomalous scenarios.

- **Keywords**: Graph Representation Learning, Graph Heterophily, Anomaly Detection, GNNs with LLM

EDUCATION

Seoul National University, Seoul, South Korea

- M.S.-Ph.D. Integrated Program in Data Science — Mar 2023 – Present
  - Research Interest: Graph Representation Learning, Graph Heterophily, Anomaly Detection
  - Advisor: Prof. Hyunwoo Park
- Planning to fulfill military service as a *Technical Research Personnel* starting around September 2026

Korea University, Seoul, South Korea

- B.S. in Industrial Management Engineering — Mar 2019 – Feb 2023
  - GPA: 3.76 / 4.50

RESEARCH EXPERIENCE

DSAIL (Data Science & Artificial Intelligence), KAIST

- Undergraduate Research Intern — Jun 2022 – Aug 2022
  - Research Interest: Graph Neural Network, Recommendation System
  - Advisor: Prof. Chanyoung Park

AIDA Lab (Artificial Intelligence & Data Analytics), Korea University

- Undergraduate Research Intern — May 2021 – Jan 2022
  - Research Interest: Anomaly Detection, GAN
  - Advisor: Prof. Sungwon Han

PUBLICATIONS

(†: Equal contribution)

JOURNALS

[J1] FURIOUS: Fully unified risk-assessment with interactive operational user system for vessels
Yooyeun Kim†, **Jeehong Kim†**, Wonhee Lee, Hyunwoo Park, Deuk Jae Cho
PLoS One (2025.05)

WORKSHOPS

[W1] Adaptive Sparsified Graph Learning Framework for Vessel Behavior Anomalies
Jeehong Kim†, Minchan Kim†, Jaeseong Ju, Youngseok Hwang, Wonhee Lee, Hyunwoo Park
AAAI 2025 Workshop on Anomaly Detection in Scientific Domains

PROJECTS

MOIN

- Fintech Technology Commercialization Support Program — Jul 2025 – Present
  - Fraud detection system (FDS) modeling optimization for overseas remittance using AI technology

Korea Research Institute of Ships & Ocean Engineering (KRISO)

- Vessel Behavior Anomaly Detection — Oct 2024 – Present
  - Anomaly detection using a GNN-based framework on a customized dataset
  - (Published) *Adaptive Sparsified Graph Learning Framework for Vessel Behavior Anomalies*
  - (Under Review) *Unified Graph Neural Network Approach for Vessel Behavior Anomaly Detection*
- Visualization for Ship Collision Risk Assessment — Mar 2024 – May 2025
  - Development of a decision supportive interactive system for ship collision avoidance
  - (Published) *FURIOUS: Fully unified risk-assessment with interactive operational user system for vessels*

VAIV Company

- Generative AI Professional Development Project — Mar 2024 – Present
  - Task planning with LLM-guided GNNs

Seoul National University

- SNU Creative Education Project (Inno-Edu 2031) — Jan 2024 – Dec 2024
  - Curriculum reform initiative under the SNU Creative Education Project
- Undergraduate Course Development — Jan 2024 – Jun 2024
  - (L0655.005100) Veritas Practice: Data Visualization and Me

AWARDS & SCHOLARSHIPS

SNU Medical AI Scholarship, Seoul National University — Aug 2024 – Present

BK 21 Scholarship, Brain Korea — Mar 2025 – Present

Veritas Scholarship, Korea University — Feb 2022
- Research on detection of anomalies in the manufacturing process
  - Advisor: Prof. Sungwon Han

HAICON2021, Korea Institute of Information Security & Cryptology (KIISC) — Nov 2021
- Construction of an AI model for identifying time-series based anomalies in industrial control systems
  - Ranked 6th out of 177 teams

Industrial Engineering Project Competition, Korean Institute of Industrial Engineers (KIIE) — Oct 2021
- Design of a dynamic corridor network for K-UAM
  - Received participation award in industrial engineering project competition

Data Visualization Competition, Korea University, Yonsei University, Intel — Aug 2021
- Visualization of patient and their deductible premium relationship
  - Received grand prize

ACTIVITIES

Lab Captain, Visualization and Business Analytics Lab (ViBA) — Dec 2024 – Present
- Advisor: Prof. Hyunwoo Park

Samsung Dream Class, Samsung Welfare Foundation — Sep 2021 – Feb 2022

Korea-China Leadership Program, Korea Foundation for Advanced Studies (KFAS) — Jul 2019

TEACHING EXPERIENCE

Teaching Assistant
- K-Digital training program at Seoul National University — Jun 2024
- Python data analysis training program for Seoul National University faculty members — Jan 2024

TALKS AND SEMINARS

FURIOUS: Fully unified risk-assessment with interactive operational user system for vessels
- 2024 INFORMS Annual Meeting (Contributed Session) — Oct 2024

REFERENCES

Prof. Hyunwoo Park, Associate Professor, Seoul National University
- Email: hyunwoopark@snu.ac.kr

[*CV compiled on 2025-07-18*]