

Sungho Bae

M.S. Student in Data Science
Seoul National University

e-mail: sunghobae@snu.ac.kr / phone: (+82) 10-6640-4235

Seoul National University, Seoul, Republic of Korea

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[Google Scholar](#) / [GitHub](#)

Education

Seoul National University (Seoul, South Korea)

M.S., Data Science

Sept. 2024 - Present

- Advisor: Hyunwoo Park

Gwangju Institute of Science and Technology (GIST) (Gwangju, South Korea)

B.S., Computer Science; Minor in AI Convergence

Mar. 2019 - Aug. 2024

- Advisor: Euiseok Hwang

◇ Outstanding Undergraduate Thesis Award

Daegu Science High School (Daegu, South Korea)

Student, Major in Physics and Chemistry

Mar. 2016 - Feb. 2019

Research Experience

GIST Intelligent Information System Lab / Research Internship

Sep. 2023 - Aug. 2024

◇ 2023 Winter EECS Department Outstanding Bachelor Intern

- Campus Net Power Load Prediction Using Renewable Energy and Power Consumption Data
- Estimation of Household Characteristics Using Smart Meter Data

CJ OliveNetworks AI Research Lab / Research Internship

Jul. 2023 - Sep. 2023

- Deep Learning-Based Modeling for Palm Oil Price Prediction
- Cosmetic Demand Forecasting Using Time Series Prediction

Publications

✓ My name is denoted in **bold underline**. * denotes equal contribution.

[W3] Beyond Tool Selection: Diagnosing Downstream Failures in MCP Tool-Using LLM Agents

Sungho Bae and Hyunwoo Park

ICML Workshop on Failure Modes in Agentic AI (FAGEN), 2026

[W2] AISFlow: Boundary-Informed Flow Matching for Long-Term AIS Trajectory Imputation

Sungho Bae, Youngseok Hwang, Geonwoo Lee, Jaeun Seo, Dohun Lee, and Hyunwoo Park

ICML Workshop on AI for Science, 2026

[C2] Redefining Maritime Anomaly Detection via Equation-Grounded Synthetic Anomalies

Youngseok Hwang*, Sungho Bae*, Dohun Lee, Jaeun Seo, Jeehong Kim, Wonhee Lee, and Hyunwoo Park

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2026

◇ Oral Presentation

[W1] Spatio-Temporal Graphs Beyond Grids: Benchmark for Maritime Anomaly Detection

Jeehong Kim, Youngseok Hwang, Minchan Kim, Sungho Bae, and Hyunwoo Park

NeurIPS Workshop on AI for Science, 2025

[J1] STGVAD: Spatio-Temporal Graph-Based Vessel Behavior Anomaly Detection

Jeehong Kim, Minchan Kim, Youngseok Hwang, Sungho Bae, Deuk Jae Cho, Wonhee Lee, and Hyunwoo Park

IEEE Access, 2025

[C1] Socio-demographic Information Estimation via Smart Meter Data Analysis and Feature Selection

Sungho Bae, G. Seo, and E. Hwang

International Conference on ICT Convergence (ICTC), 2024

Domestic Publications

[D1] Deep Learning-Based Short-Term Time Series Forecasting Modeling for Palm Oil Price Prediction

Sungho Bae, Myungsun Kim, Woohyuk Jung, and Jihwan Woo

Information Systems Review, 2024

Honors & Awards

- **Outstanding Undergraduate Thesis Award** Aug. 2024
Gwangju Institute of Science and Technology.
Thesis: "A Study on Efficient Feature Selection for Smart Meter Data Analysis"
- **Grand Prize (1st), 2024 Hello World Hackathon** May 2024
Developed a platform to help active seniors stay socially engaged in retirement.
- **Chairman Award (2nd), INNOPOLIS Foundation, AI4GOOD Hackathon** Mar. 2024
Developed an online shopping assistant for the visually impaired using iPhone shortcut.
- **1st Prize, CJ OliveNetworks CTO Cup Paper Competition** Oct. 2023
Deep Learning-Based Time Series Forecasting Modeling for Palm Oil Price Prediction.
◊ Received an opportunity to participate in the 2023 NeurIPS conference
- **1st Prize, CJ OliveNetworks CTO Cup Kaggle Competition** Jun. 2023
Store Sales - Time Series Forecasting; predicted grocery sales using machine learning.
◊ Received an internship opportunity at CJ OliveNetworks
- **AWS Head of APJ STJ Prize (2nd), The 1st GDSC X GIST Hackathon** Apr. 2023
Developed a book-based community iOS app for neighbors to share reading experiences.

Other Experience

Teaching Assistant

- Data Engineering @ Gwangju Institute of Science and Technology
- Data Visualization and me @ Seoul National University

SOPT; IT Venture Start-up Student Club / iOS Developer

Sep. 2022 - May 2023

- Developed iOS application 'KAERA' with Team HARA: github.com/TeamHARA.
- Learned how to collaborate with design, planning, server, and other cross-functional teams.

The Republic of Korea's Army

Jan. 2021 - Jul. 2022

Compulsory military training as per the regulations of the Government.

GIST HOUSE; Dormitory Association / Club President

Mar. 2019 - Jan. 2021

Led the organization of events to improve dormitory students' residential experience.