

Taehyung Kwon

✉ taehyung.kwon@kaist.ac.kr | 🏠 <https://kbrother.github.io/> | 🌐 kbrother |
https://scholar.google.co.kr/citations?user=Ld_e3xIAAAAJ

Research Interests

Data-centric AI, Dataset Distillation, Spatio-temporal Learning, Tensor Mining, Efficient & Scalable Machine Learning

Work Experience

KAIST

Research Fellow (Advisor: Prof. Kijung Shin)

Seoul, South Korea

Mar. 2026 - Present

Education

KAIST

Ph.D. in Artificial Intelligence

Advisor: Prof. Kijung Shin

Seoul, South Korea

Mar. 2022 - Feb. 2026

KAIST

M.S. in Artificial Intelligence

Advisor: Prof. Kijung Shin

Seoul, South Korea

Mar. 2020 - Feb. 2022

KAIST

B.S. in School of Computing

GPA: 4.0/4.3, Major GPA: 4.0/4.3, Summa Cum Laude

Daejeon, South Korea

Mar. 2015 - Feb. 2020

Publications

- [1] **Effective Dataset Distillation for Spatio-Temporal Forecasting with Bi-dimensional Compression**
Taehyung Kwon*, Yeonje Choi*, Yeongho Kim, and Kijung Shin
IEEE ICDE 26
- [2] **Effective and Lightweight Lossy Compression of Tensors: Techniques and Applications**
Jihoon Ko, Taehyung Kwon, Jinhong Jung, and Kijung Shin
Knowledge and Information Systems (SCIE Journal, 2025)
- [3] **Simple yet Effective Node Property Prediction on Edge Streams under Distribution Shifts**
Jongha Lee, Taehyung Kwon, Heechan Moon, and Kijung Shin
IEEE ICDE 25
- [4] **Compact Lossy Compression of Tensors via Neural Tensor-Train Decomposition**
Taehyung Kwon, Jihoon Ko, Jinhong Jung, Jun-Gi Jang, and Kijung Shin
Knowledge and Information Systems (SCIE Journal, 2025)
- [5] **Kronecker Generative Models for Power-Law Patterns in Real-World Hypergraphs**
Minyoung Choe, Jihoon Ko, Taehyung Kwon, Kijung Shin, and Christos Faloutsos
ACM WWW 25
- [6] **Begin: Extensive Benchmark Scenarios and an Easy-to-use Framework for Graph Continual Learning**
Jihoon Ko*, Shinhwan Kang*, Taehyung Kwon, Heechan Moon, and Kijung Shin
ACM TIST (SCIE Journal, 2025)
- [7] **ELiCiT: Effective and Lightweight Lossy Compression of Tensors**
Jihoon Ko, Taehyung Kwon, Jinhong Jung, and Kijung Shin
IEEE ICDM 24
Selected as One of the Best-Ranked Papers of ICDM 2023 for Fast-track Journal Invitation
- [8] **Compact Decomposition of Irregular Tensors for Data Compression: From Sparse to Dense to High-Order Tensors**
Taehyung Kwon, Jihoon Ko, Jinhong Jung, Jun-Gi Jang, and Kijung Shin
ACM KDD 24
- [9] **TensorCodec: Compact Lossy Compression of Tensors without Strong Data Assumptions**
Taehyung Kwon, Jihoon Ko, Jinhong Jung, and Kijung Shin
IEEE ICDM 23
Received the IEEE ICDM Best Student Paper Runner-up Award
Selected as One of the Best-Ranked Papers of ICDM 2023 for Fast-track Journal Invitation
- [10] **NeuKron: Constant-Size Lossy Compression of Sparse Reorderable Matrices and Tensors**
Taehyung Kwon*, Jihoon Ko*, Jinhong Jung, and Kijung Shin
ACM WWW 23

- [11] **Finding a Concise, Precise, and Exhaustive Set of Near Bi-Cliques in Dynamic Graphs**
Hyeonjeong Shin, Taehyung Kwon, Neil Shah, and Kijung Shin
ACM WSDM 22
- [12] **Slicenstitch: Continuous CP Decomposition of Sparse Tensor Streams**
Taehyung Kwon*, Inkyu Park*, Dongjin Lee, and Kijung Shin
IEEE ICDE 21

Awards and Honors

- 2024 **One of the Best-Ranked Papers, IEEE ICDM 2024**
- 2023 **Best Student Paper Runner-up Award, IEEE ICDM 2023**
- 2023 **One of the Best-Ranked Papers, IEEE ICDM 2023**

Academic Services

Workshop Organizing Committees

- 2026 **Workshop on Interplay Between Classical Tensor Methods And Foundation Models**

Reviewers

- 2024 - 2026 **ACM KDD**
- 2026 **ACM WWW**
- 2026 **IEEE ICDM**
- 2025 - 2026 **ACM CIKM**
- 2024 **Big Data Research**
- 2024 **ACM TKDD journal**

TEACHING

Teaching Assistant

KAIST

- AI506 Data Mining and Search
- AI607 Graph Mining and Social Network Analysis

Spring 2020 - 2024
Fall 2020 - 2024