Taehyung Kwon

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https://scholar.google.co.kr/citations?user=Ld_e3xIAAAAJ

Research Interests

Data-centric AI, Dataset Distillation, Data Compression, Tensor Decomposition, Efficient & Scalable Machine Learning

Work Experience

KAIST *Seoul, South Korea*

Research Fellow (Advisor: Prof. Kijung Shin) Mar. 2026 - Present

Education

KAIST *Seoul, South Korea*

Ph.D. in Artificial Intelligence Mar. 2022 - Feb. 2026

Advisor: Prof. Kijung Shin

KAIST *Seoul, South Korea*

M.S. in Artificial Intelligence Mar. 2020 - Feb. 2022

Advisor: Prof. Kijung Shin

KAIST *Daejeon, South Korea*

B.S. in School of Computing Mar. 2015 - Feb. 2020

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

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 - 2027	**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 — Spring 2020 - 2024
- AI607 Graph Mining and Social Network Analysis — Fall 2020 - 2024