Taehyung Kwon

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

Research Interests

Tensor Decomposition, Data Compression, Data Distillation

Education

KAIST *Seoul, South Korea*
Ph.D. in Artificial Intelligence Mar. 2022 - Feb. 2026
KAIST Data Mining Lab, Advisor: Kijung Shin

KAIST *Seoul, South Korea*
M.S. in Artificial Intelligence Mar. 2020 - Feb. 2022
KAIST Data Mining Lab, Advisor: 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 (to appear)**
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). [Link]

[3] **Simple yet Effective Node Property Prediction on Edge Streams under Distribution Shifts (to appear)**
Jongha Lee, **Taehyung Kwon**, Heechan Moon, and Kijung Shin
IEEE ICDE 25. [Link]

[4] **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. [Link]

[5] **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, 2024). [Link]

[6] **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, 2024). [Link]

[7] **ELiCiT: Effective and Lightweight Lossy Compression of Tensors**
Jihoon Ko, **Taehyung Kwon**, Jinhong Jung, and Kijung Shin.
IEEE ICDM 24. [Link]

[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. [Link]

[9] **TensorCodec: Compact Lossy Compression of Tensors without Strong Data Assumptions**
Taehyung Kwon, Jihoon Ko, Jinhong Jung, and Kijung Shin.
IEEE ICDM 23. [Link] **Best Student Paper Runner-up Award**. [Link]

[10] **NeuKron: Constant-Size Lossy Compression of Sparse Reorderable Matrices and Tensors**
Taehyung Kwon*, Jihoon Ko*, Jinhong Jung, and Kijung Shin.
ACM WWW 23. [Link]

[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. [Link]

[12] **Learning to Pool in Graph Neural Networks for Extrapolation**
Jihoon Ko, **Taehyung Kwon**, Kijung Shin, and Juho Lee.
Preprint (2021). [Link]

[13] **Slicenstitch: Continuous CP Decomposition of Sparse Tensor Streams**
Taehyung Kwon*, Inkyu Park*, Dongjin Lee, and Kijung Shin.
IEEE ICDE 21. [Link]

Awards and Honors

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

Academic Services

2024 - 2026	ACM Conference on Knowledge Discovery and Data Mining (**KDD**), reviewer
2026	The ACM Web Conference (**WWW**), reviewer
2024	Big Data Research, reviewer
2024	ACM Transactions on Knowledge Discovery from Data (**TKDD**), reviewer

TEACHING

Teaching Assistant

KAIST

- AI607 Graph Mining and Social Network Analysis — Fall 2020 - 2024
- AI506 Data Mining and Search — Spring 2020 - 2024