GEON LEE

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RESEARCH INTERESTS

Data Mining, Graph Mining, Machine Learning, Deep Learning, Social Network Analysis

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST) — Seoul, South Korea
M.S. & Ph.D. in Artificial Intelligence — Sep. 2020 –
Advisor: Kijung Shin

Sungkyunkwan University (SKKU) — Suwon, South Korea
B.S. in Computer Science and Engineering — Mar. 2016 – Aug. 2019
GPA: 4.41/4.50; C.S.: 4.45/4.50 (Ranked 1st in the College of CSE)

WORK EXPERIENCE

NEC Labs America — Princeton, NJ, USA
Research Intern — May 2023 – Aug. 2023
Mentor: Wenchao Yu / Manager: Haifeng Chen

Amazon — San Francisco, CA, USA
Applied Scientist Intern — Sep. 2022 – Dec. 2022
Mentor: Zhonghao Luo / Manager: Tao Ye

AWARDS AND HONORS

Selected as One of the **Best-Ranked Papers of ICDM 2021** — Dec. 2021
Sungkyunkwan Presidential Award — Aug. 2019
Dean's List — 2016 – 2019
Sungkyunkwan Software Scholarship (Full tuition scholarship) — 2016 – 2019

TUTORIALS

[1] Mining of Real-World Hypergraphs: Patterns, Tools, and Generators
Geon Lee, Jaemin Yoo, and Kijung Shin
KDD 2023 & **WWW 2023** & **ICDM 2022** & **CIKM 2022**

PUBLICATIONS

[1] Hypergraph Motifs and Their Extensions Beyond Binary
Geon Lee*, Seokbum Yoon*, Jihoon Ko, Hyunju Kim, and Kijung Shin (* equal contribution)
The VLDB Journal (SCI Journal, 2024)

[2] Hypercore Decomposition for Non-Fragile Hyperedges: Concepts, Algorithms, Observations, and Applications
Fanchen Bu, Geon Lee, and Kijung Shin
Data Mining and Knowledge Discovery (SCI Journal, 2023)

[3] Temporal Hypergraph Motifs
Geon Lee and Kijung Shin
Knowledge and Information Systems (SCIE Journal, 2023)

[4] Set2Box: Similarity Preserving Representation Learning for Sets
Geon Lee, Chanyoung Park, and Kijung Shin
ICDM 2022

[5] HashNWalk: Hash and Random Walk Based Anomaly Detection in Hyperedge Streams
Geon Lee, Minyoung Choe, and Kijung Shin
IJCAI 2022

[6] MiDaS: Representative Sampling from Real-World Hypergraphs
Minyoung Choe, Jaemin Yoo, Geon Lee, Woonsung Baek, U Kang, and Kijung Shin
WWW 2022

[7] Simple Epidemic Models with Segmentation Can Be Better than Complex Ones
Geon Lee, Se-eun Yoon, and Kijung Shin
PLOS ONE (SCIE Journal, 2022)
Oral presentation at ***epiDAMIK workshop in KDD 2021***

[8] THyMe+: Temporal Hypergraph Motifs and Fast Algorithms for Exact Counting
Geon Lee and Kijung Shin
ICDM 2021
Selected as One of the ***Best-Ranked Papers of ICDM 2021***

[9] How Do Hyperedges Overlap in Real-World Hypergraphs? - Patterns, Measures, and Generators
Geon Lee*, Minyoung Choe*, and Kijung Shin (* equal contribution)
WWW 2021

[10] Hypergraph Motifs: Concepts, Algorithms, and Discoveries
Geon Lee, Jihoon Ko, and Kijung Shin
VLDB 2020

[11] MEGA: Multi-View Semi-Supervised Clustering of Hypergraphs
Joyce Jiyoung Whang, Rundong Du, Sangwon Jung, Geon Lee, Barry Drake, Qingqing Liu, Seonggoo Kang, and Haesun Park
VLDB 2020

[12] Hyperlink Classification via Structured Graph Embedding
Geon Lee, Seonggoo Kang, and Joyce Jiyoung Whang
SIGIR 2019 (Short Paper)

ACADEMIC SERVICES

Program Committee

- SIAM International Conference on Data Mining (**SDM**) 2024
- AAAI Conference on Artificial Intelligence (**AAAI**) 2024
- Learning on Graphs Conference (**LoG**) 2022 - 2023

Program Committee (Tutorial Track)

- ACM International Conference on Information and Knowledge Management (**CIKM**) 2023

Conference Reviewer

- The Web Conference (**WWW**) 2024
- ACM Conference on Knowledge Discovery and Data Mining (**KDD**) 2023

Journal Reviewer

- The VLDB Journal 2023

- IEEE Transactions on Knowledge and Data Engineering (**TKDE**) 2023
- IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**) 2023

PROJECTS

AI-based Weather Forecast Support Development July 2021 –
COVID-19 Task Force Mar. 2020 – Sep. 2020

TEACHING

Teaching Assistant

- KAIST AI506 Data Mining and Search Spring 2021, 2023
- KAIST AI607 Graph Mining and Social Network Analysis Fall 2020, 2021, 2022, 2023
- KAIST AI617 Machine Learning for Robotics Spring 2022
- SKKU CSE3036 Seminar in Computer Engineering Fall 2019