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 (Expected) — Princeton, NJ, USA
Research Intern — May 2023 – July 2023
Mentor: TBD / 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
WWW 2023 & **ICDM 2022** & **CIKM 2022**

PUBLICATIONS

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

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

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

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

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

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

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

[8] Hypergraph Motifs: Concepts, Algorithms, and Discoveries
<u>Geon Lee</u>, Jihoon Ko, and Kijung Shin
VLDB 2020

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

[10] Hyperlink Classification via Structured Graph Embedding
<u>Geon Lee</u>, Seonggoo Kang, and Joyce Jiyoung Whang
SIGIR 2019 (Short Paper)

ACADEMIC SERVICES

Conference Reviewer

- ACM Conference on Knowledge Discovery and Data Mining (**KDD**) 2023
- Learning on Graphs Conference (**LoG**) 2022

Journal Reviewer

- IEEE Transactions on Knowledge and Data Engineering (**TKDE**) 2023

PROJECTS

AI-based Weather Forecast Support Development   July 2021 –

- Developing a search engine that finds similar satellite images from the past 40 years, given a query image. The final goal is to support the weather forecasters in Korea Meteorological Administration (KMA) to properly refer to the past situation that is the most similar to the current one and thus accurately predict the future weather of the Korean Peninsula.

COVID-19 Task Force   Mar. 2020 – Sep. 2020

- Developed a model that learns the dynamics of the epidemic events of COVID-19. Proposed a method that automatically and properly divides an epidemic sequence and fits each sub-sequence using a simple model which improves the reconstruction and prediction quality. This work was published in PLOS ONE (SCIE journal) "Simple Epidemic Models with Segmentation Can Be Better than Complex Ones" and presented in epiDAMIKS workshop at KDD 2021.

SKILLS

Languages	Korean (mother tongue), English (fluent), Japanese (fluent)
Computing Skills	C, C++, Python, Matlab, Java, Android

TEACHING

Teaching Assistant

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