GEON LEE

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RESEARCH INTERESTS

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

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 Computer Science and Engineering)

WORK EXPERIENCE

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
ICDM 2022, **CIKM 2022**, **DSAA 2022**

PUBLICATIONS

[1] Temporal Hypergraph Motifs
Geon Lee and Kijung Shin
Knowledge and Information Systems 2022 (SCIE Journal, 2023, To appear)
Invited as One of the ***Best-Ranked Papers of ICDM 2021***

[2] Set2Box: Similarity Preserving Representation Learning for Sets
Geon Lee, Chanyoung Park, and Kijung Shin
ICDM 2022 (To appear, Acceptance Rate = 20%)

[3] HashNWalk: Hash and Random Walk Based Anomaly Detection in Hyperedge Streams
Geon Lee, Minyoung Choe, and Kijung Shin
IJCAI 2022 (Acceptance Rate = 15%)

[4] MiDaS: Representative Sampling from Real-World Hypergraphs
Minyoung Choe, Jaemin Yoo, Geon Lee, Woonsung Baek, U Kang, and Kijung Shin
WWW 2022 (Acceptance Rate = 17.7%)

[5] 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***

[6] THyMe+: Temporal Hypergraph Motifs and Fast Algorithms for Exact Counting
Geon Lee and Kijung Shin
ICDM 2021 (Regular Paper, Acceptance Rate = 9.9%)
Selected as One of the ***Best-Ranked Papers of ICDM 2021***

[7] How Do Hyperedges Overlap in Real-World Hypergraphs? - Patterns, Measures, and Generators
Geon Lee*, Minyoung Choe*, and Kijung Shin
WWW 2021 (Acceptance Rate = 20.6%)

[8] Hypergraph Motifs: Concepts, Algorithms, and Discoveries
Geon Lee, Jihoon Ko, and Kijung Shin
VLDB 2020 (Avg. Acceptance Rate = 16.7%)

[9] 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 (Avg. Acceptance Rate = 16.7%)

[10] Hyperlink Classification via Structured Graph Embedding
Geon Lee, Seonggoo Kang, and Joyce Jiyoung Whang
SIGIR 2019 (Short Paper, Acceptance Rate = 24.4%)

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 fits and predicts epidemic events of COVID-19. Proposed a segmentation method that automatically and properly divides an epidemic event sequence and fits each sub-sequence using a simple model. 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 AI617 Machine Learning for Robotics Spring 2022
- KAIST AI506 Data Mining and Search Spring 2021
- KAIST AI607 Graph Mining and Social Network Analysis Fall 2020, Fall 2021, Fall 2022
- SKKU CSE3036 Seminar in Computer Engineering Fall 2019