

Kibum Kim

PH.D STUDENT

✉ kb.kim@kaist.com | 🏠 rlqja1107.github.io | 📄 kikum-kim-253b01206

Research Interest

Deep Learning/Machine Learning

RECOMMENDATION SYSTEM, SCENE UNDERSTANDING, FOUNDATION MODELS

- **Alleviation of Long-tailed Distribution:** Enhancing the model's capability towards minority classes to counteract the long-tailed distribution commonly found in real-world data.
 - Scene Understanding: [2], [4], [6], [7], [9]
 - Recommendation: [3]
 - Graph Neural Networks: [1]
- **Application of Foundation Models:** Leveraging the generalizability of Foundation models, such as Large Language Models or Multimodal Large Language Models, to address practical challenges, e.g., long-tailed problems.
 - Image Scene Understanding: [6]
 - Video Scene Understanding: [8]
 - Recommendation System: Ongoing

Education

Korea Advanced Institute of Science and Technology (KAIST)

PH.D IN INDUSTRIAL & SYSTEMS ENGINEERING

- Research Interest: Scene Understanding, Large Language Model, Recommendation
- Advisor: Prof. Chanyoung Park

Daejeon, South Korea

Sep 2023 - Present

Korea Advanced Institute of Science and Technology (KAIST)

M.S IN INDUSTRIAL & SYSTEMS ENGINEERING

- Research Interest: Scene Understanding, Recommendation, Graph Neural Network
- Advisor: Prof. Chanyoung Park

Daejeon, South Korea

Aug 2021 - Jul 2023

Hanyang University

B.S. IN INDUSTRIAL ENGINEERING

- GPA: 4.09/4.5
- Early Graduation
- The period includes two years of military service, required for all Korean men

Seoul, South Korea

Mar 2016 - Jul 2021

Publications

PREPRINT

- [11] Yeonjun In, Kanghoon Yoon, Sukwon Yun, Kibum Kim, Sungchul Kim, Chanyoung Park. Noise Robust Graph Learning under Feature-Dependent Graph-Noise.
- [10] Kanghoon Yoon, Kibum Kim, Jaehyeong Jeon, Yeonjun In, Donghyun Kim, Chanyoung Park. ReTAG: Retrieval-Augmented Scene Graph Generation via Multi-Prototype Learning.
- [9] Kibum Kim, Kanghoon Yoon, Yeonjun In, Jaehyeong Jeon, Jinyoung Moon, Donghyun Kim, Chanyoung Park. Weakly supervised Video Scene Graph Generation with Natural Language Supervision.

CONFERENCE

- [8] (CIKM 2024) Kanghoon Yoon, Yeonjun In, Namkyeong Lee, Kibum Kim, Chanyoung Park. Debiased Graph Poisoning Attack via Contrastive Surrogate Objective. ACM International Conference on Information and Knowledge Management.

- [7] (**ECCV 2024**) Jaehyeong Jeon, Kibum Kim, Kanghoon Yoon, Chanyoung Park. Semantic Diversity-aware Prototye-based Learning for Unbiased Scene Graph Generation. The 18th European Conference on Computer Vision ECCV 2024.
- [6] (**CVPR 2024**) Kibum Kim, Kanghoon Yoon, Jaehyeong Jeon, Yeonjun In, Jinyoung Moon, Donghyun Kim, Chanyoung Park. LLM4SGG: Large Language Model for Weakly Supervised Scene Graph Generation. [\[Paper\]](#) [\[Code\]](#)
- [5] (**WWW 2024 (Oral)**) Yeonjun In, Kanghoon Yoon, Kibum Kim, Kijung Shin, Chanyoung Park. Self-guided Robust Graph Structure Refinement. The 2024 ACM Web Conference. [\[Paper\]](#) [\[Code\]](#)
- [4] (**ICLR 2024**) Kibum Kim*, Kanghoon Yoon*, Yeonjun In, Jinyoung Moon, Donghyun Kim, Chanyoung Park. Adaptive Self-training Framework for Fine-grained Scene Graph Generation. The Twelfth International Conference on Learning Representations. [\[Paper\]](#) [\[Code\]](#)
- [3] (**SIGIR 2023**) Kibum Kim, Dongmin Hyun, Sukwon Yun, Chanyoung Park. MELT: Mutual Enhancement of Long-Tailed User and Item for Sequential Recommendation. The 46th International ACM SIGIR Conference on Research and Development in Information Retrieval. [\[Paper\]](#) [\[Code\]](#)
- [2] (**AAAI 2023**) Kanghoon Yoon*, Kibum Kim*, Jinyoung Moon, Chanyoung Park. Unbiased Heterogeneous Scene Graph Generation with Relation-aware Message Passing Neural Network. Proceedings of the AAAI Conference on Artificial Intelligence 2023. [\[Paper\]](#) [\[Code\]](#)
- [1] (**CIKM 2022**) Sukwon Yun, Kibum Kim, Kanghoon Yoon, Chanyoung Park. LTE4G: Long-Tail Experts for Graph Neural Networks. Proceedings of the 31st ACM International Conference on Information & Knowledge Management. [\[Paper\]](#) [\[Code\]](#)

Projects

- 2024.06-Present **NAVER·Intel·KAIST (NIK) AI Collaboration Project for building a new AI ecosystem**
Collaboration with NAVER & Intel
- 2022.06-Present **AI Development for reasoning, extraction, understanding of common-sense**
Collaboration with Institute for Information & communications Technology Planning & evaluation (IITP)
- 2021.06-Present **Visual Intelligence Technique Development**
Collaboration with Electronics and Telecommunications Research Institute (ETRI)
- 2020.12-2021.06 **Recommending Financial Product based on Graph Embeddings**
Collaboration with Hana Bank

Awards & Scholarship

- 2022 **Poster Competition Excellence Award**
Awarded at Industrial/Social Problem Solving Session held by Department of ISysE, KAIST
- 2022 **Hanyang Academic Achievement Award**
Awarded within the top 3% among the College of Engineering, Hanyang Univ.
- 2020 **Hanyang Brain Scholarship**
Scholarship for excellent top 5% grade in Industrial Engineering department, Hanyang Univ.
- 2020 **Outstanding Learning Activities Scholarship**
Outstanding learning activities in communities held by University Innovation Support
- 2017 **Hanyang Brain Scholarship**
Scholarship for excellent top 5% grade in Industrial Engineering department, Hanyang Univ.

Professional Services

Conference Review

- 2024 - Conference on Information and Knowledge Management (CIKM)
- 2023 - AAAI Conference on Artificial Intelligence (AAAI)

Journal Review

- 2023 - IEEE Transactions on Neural Networks and Learning Systems (TNNLS)

Teaching Experience

- Spring 2022 **KSE527: Machine Learning for Knowledge Service**
Teaching Assistant
- Fall 2022 **KSE801: Recommender System and Graph Machine Learning**
Teaching Assistant

Talks & Seminars

- Jun 2023 **MELT: Mutual Enhancement of Long-Tailed User and Item for Sequential Recommendation**
Top Conference Session of Korea Computer Congress (KCC) 2023

Activities

- 2021.12-2022.02 **Research intern in Data Science & Artificial Intelligence Lab (DSAIL)**
Implementing key papers on Graph Neural Networks and Recommender Systems ([link](#))
- 2018.06-2018.07 **Short-term Language Study Program in China**
Cultural exchange activities at [Changchun](#) University

References

Prof. Chanyoung Park, Assistant professor, KAIST
Email: cy.park@kaist.ac.kr