

# Kibum Kim

PH.D STUDENT

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## Research Interest

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### Deep Learning/Machine Learning

SCENE UNDERSTANDING, LARGE LANGUAGE MODEL, RECOMMENDATION

- **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], [8], [9]
  - Recommendation: [3]
  - Graph Neural Networks: [1]
- **Large Language Models:** Leveraging the generalizability of Large Language Models (LLMs) to address practical challenges, e.g., long-tailed problems.
  - Scene Understanding: [6], [7]

## Education

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### Korea Advanced Institute of Science and Technology (KAIST)

PH.D IN INDUSTRIAL & SYSTEMS ENGINEERING

Daejeon, South Korea

Sep 2023 - Present

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

### Korea Advanced Institute of Science and Technology (KAIST)

M.S IN INDUSTRIAL & SYSTEMS ENGINEERING

Daejeon, South Korea

Aug 2021 - Jul 2023

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

### Hanyang University

B.S. IN INDUSTRIAL ENGINEERING

Seoul, South Korea

Mar 2016 - Jul 2021

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

## Publications

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### IN SUBMISSION

- [11] (**KDD 2024**) Kanghoon Yoon, Yeonjun In, Namkyeong Lee, Kibum Kim, Chanyoung Park. Debaised Graph Poisoning Attack via Contrastive Surrogate Objective. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.
- [10] (**KDD 2024**) Yeonjun In, Kanghoon Yoon, Sukwon Yun, Kibum Kim, Sungchul Kim, Chanyoung Park. Noise Robust Graph Learning under Feature-Dependent Graph-Noise. ACM SIGKDD International Conference on Knowledge Discovery and Data Mining.
- [9] (**ECCV 2024**) Kanghoon Yoon, Kibum Kim, Jaehyeong Jeon, Yeonjun In, Donghyun Kim, Chanyoung Park. ReTAG: Retrieval-Augmented Scene Graph Generation via Multi-Prototype Learning. The 18th European Conference on Computer Vision ECCV 2024.
- [8] (**ECCV 2024**) Jaehyeong Jeon, Kibum Kim, Kanghoon Yoon, Chanyoung Park. Semantic Diversity-aware Prototype-based Learning for Unbiased Scene Graph Generation. The 18th European Conference on Computer Vision ECCV 2024.
- [7] (**ECCV 2024**) Kibum Kim, Kanghoon Yoon, Yeonjun In, Jaehyeong Jeon, Jinyoung Moon, Donghyun Kim, Chanyoung

Park. Weakly supervised Video Scene Graph Generation with Natural Language Supervision. The 18th European Conference on Computer Vision ECCV 2024.

## CONFERENCE

- [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

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- 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

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- 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

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### Conference Review

- 2023 - AAAI Conference on Artificial Intelligence (AAAI)

### Journal Review

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

## Teaching Experience

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

## Talks & Seminars

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

## Activities

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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

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**Prof. Chanyoung Park**, Assistant professor, KAIST  
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