Kibum Kim

PH.D CANDIDATE

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Experience with Computer Vision/LLM

Computer Vision (Multimodal Learning)

- **(Current Work as a Visiting Scholar)** I'm focusing on Multimodal Large Language Models (MLLMs) for *efficiency*, effectively distilling knowledge from a teacher model [18], and I am working on token merging to improve efficiency in video MLLMs.
- **(Recent Work)** I have worked on enhancing compositional reasoning in *video–language* models by incorporating few video scene graphs [19][2], based on my prior researches in scene understanding [4][6][8][9][11][12] .
- **(Previous Works)** I mainly focused on scene understanding (i.e., the scene graph generation task), which converts images or videos into scene graphs to capture visual relationships between objects in the image or video domains.[4][6][8][9][11][12] .

LLM

- I have been mainly focusing on the application of Large Language Models in diverse domains, such as scene understanding [8][12] and recommender systems [14][17], as well as the **safety** of LLMs [15].

Research Interest

Machine Learning/Deep Learning

- Enhancing the generalizability of ML/DL models critically depends on the quality of data. Accordingly, my research adopts a *data-centric* approach to address various challenges inherent in data, which include the following.
  - *Long-tailedness*: [3][4][5][6] [8][9][11]
  - *Data Scarcity*: [8][12]
  - *Adversarial Attacks (Robustness)*: [7][10][16]
  - *Missing Modality*: [13]
  - *Data Benchmarking*: [15]
  - *Multimodal Redundancy*: [17]
  - *Data Efficiency*: [2][19][18]
- Since data-centric challenges appear in many domains, my research addresses a broad range of areas, including:
  - *Large Language Model/Foundation Model*
  - *Image/Video Scene Understanding*
  - *Recommender Systems*
  - *Graph Neural Networks*

Positions

University of California San Diego — *SD, USA*

VISITING SCHOLAR IN COMPUTER SCIENCE DEPARTMENT — *Aug 2025 -*

- Host: Prof. Julian McAuley

Education

Korea Advanced Institute of Science and Technology (KAIST) — *Daejeon, South Korea*

PH.D IN INDUSTRIAL & SYSTEMS ENGINEERING — *Sep 2023 - Present*

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

Korea Advanced Institute of Science and Technology (KAIST) *Daejeon, South Korea*

M.S in Industrial & Systems Engineering *Aug 2021 - Jul 2023*

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

Hanyang University *Seoul, South Korea*

B.S. in Industrial Engineering *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

Preprint

[19] (Under Review at CVPR'26) Kibum Kim, Kyle Min, Eduardo Escoto, Yueqi Wang, Julian McAuley, Chanyoung Park. When Data Scaling isn't Enough: Leveraging Video Scene Graphs to Improve Compositional Reasoning in Video-Language Models. [Paper]

[18] (Under Review at ICLR'26) Jiwan Kim, Kibum Kim, Sangwoo Seo, Chanyoung Park. CompoDistill: Attention Distillation for Compositional Reasoning in Multimodal LLMs. [Paper]

[17] (Under Review it at ICLR'26) Kibum Kim, Sein Kim, HongSeok Kang, Jiwan Kim, Heewoong Noh, Yeonjun In, Kanghoon Yoon, Jinoh Oh, Julian McAuley, Chanyoung Park. Image is All You Need: Towards Efficient and Effective Large Language Model-Based Recommender Systems. [Paper]

Conference

[16] (NeurIPS'25) Yeonjun In, Kanghoon Yoon, Sukwon Yun, Kibum Kim, Sungchul Kim, Chanyoung Park. Training Robust Graph Neural Networks by Modeling Noise Dependencies. The Thirty-ninth Annual Conference on Neural Information Processing Systems. [Paper]

[15] (EMNLP'25-Findings) Yeonjun In, Wonjoong Kim, Kanghoon Yoon, Sungchul Kim, Mehrab Tanjim, Kibum Kim, Chanyoung Park. Is Safety Standard Same for Everyone? User-Specific Safety Evaluation of Large Language Models. The 2025 Conference on Empirical Methods in Natural Language Processing. [Paper] [Code]

[14] (KDD'25) Sein Kim*, Hongseok Kang*, Kibum Kim, Jiwan Kim, Donghyun Kim, Minchul Yang, Kwangjin Oh, Julian McAuley, Chanyoung Park. Lost in Sequence: Do Large Language Models Understand Sequential Recommendation? ACM SIGKDD International Conference on Knowledge Discovery and Data Mining. [Paper] [Code]

[13] (SIGIR'25) Jiwan Kim, Hongseok Kang, Sein Kim, Kibum Kim, Chanyoung Park. Disentangling and Generating Modalities for Recommendation in Missing Modality Scenarios. The 48th International ACM SIGIR Conference on Research and Development in Information Retrieval. [Paper] [Code]

[12] (**ICLR 2025**) Kibum Kim, Kanghoon Yoon, Yeonjun In, Jaehyeong Jeon , Jinyoung Moon, Donghyun Kim, Chanyoung Park. Weakly supervised Video Scene Graph Generation with Natural Language Supervision. [Paper]

[11] (**AAAI 2025**) Kanghoon Yoon, Kibum Kim, Jaehyeong Jeon, Yeonjun In, Donghyun Kim, Chanyoung Park. ReTAG: Retrieval-Augmented Scene Graph Generation via Multi-Prototype Learning. The 39th Association for the Advancement of Artificial Intelligence. [Paper] [Code]

[10] (**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.[Paper] [Code]

[9] (**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. [Paper] [Code]

[8] (**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]

[7] (**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]

[6] (**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]

[5] (**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]

[4] (**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]

[3] (**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]

Workshop

[2] (**NeurIPS'25)**) Kibum Kim, Kyle Min, Chanyoung Park. Data Scaling isn't Enough: Towards Improving Compositional Reasoning in Video-Language Models. Multimodal Algorithmic Reasoning (Spotlight) [LINK] and Efficient Reasoning (ER)

[1] (**WWW'24 (Oral)**) Yeonjun In, Kanghoon Yoon, Sukwon Yun, Kibum Kim, Sungchul Kim, Chanyoung Park. Noise Robust Graph Learning under Feature-Dependent Graph-Noise. The Web Conference, Data-Centric Artificial Intelligence (DCAI) Workshop.

Projects

2022.06-Present **AI Development for reasoning, extraction, understanding of common-sense**
Collaboration with **I**nstitute for **I**nformation & communications **T**echnology **P**lanning & evaluation (IITP)

2021.06-Present **Visual Intelligence Technique Development**
Collaboration with **E**lectronics and **T**elecommunications **R**esearch **I**nstitute (ETRI)

2024.06-2025.07 **NAVER·Intel·KAIST (NIK) AI Collaboration Project for building a new AI ecosystem**
Collaboration with NAVER & Intel

2020.12-2021.06 **Recommending Financial Product based on Graph Embeddings**
Collaboration with Hana Bank

Professional Services

Conference Review

- 2026 - The WebConf (WWW)
- 2025 - Neural Information Processing Systems Datasets and Benchmark Track (NeurIPS)
- 2025 - ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)
- 2025 ∼ 2026 - The International Conference on Learning Representations (ICLR)
- 2024 ∼ 2026 - AAAI Conference on Artificial Intelligence (AAAI)
- 2024 ∼ 2025 - Conference on Information and Knowledge Management (CIKM)

Workshop Review

- Efficient Large Vision Models [CVPR'25], Graph Learning with Foundation Models [PAKDD'25], Towards Robots with Human-Level Abilities [ICLR'25], Multimodal Algorithmic Reasoning [NeurIPS'25], Efficient Reasoning [NeurIPS'25]

Journal Review

- Neurocomputing, Journal of Big Data, Pattern Recognition Letters, TKDE, TNNLS

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

Prof. Julian McAuley, Professor, UC San Diego
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