

Sein Kim

📍 Daejeon, South Korea ✉ rlatpdlsgns@kaist.ac.kr 📄 Google Scholar in LinkedIn 🐙 GitHub

Research Interest

Delving into the realm of applied Machine Learning, my research passions revolve around user modeling, recommendation systems, and Large Language Models (LLMs). I am dedicated to creating meaningful and insightful user representations via LLMs that seamlessly empower a range of downstream tasks. My ongoing research is directed towards applied LLMs, where unraveling the intricate art of user representation in dynamic contexts with collaborative and textual information.

Education

- | | | |
|-------------|---|---------------------|
| Ph.D | Korea Advanced Institute of Science and Technology (KAIST) | Aug 2022 – Present |
| | <ul style="list-style-type: none"> Industrial & Systems Engineering Ph.D. Candidate, 2nd Year (Integrated M.S. and Ph.D student) Advisor: (Prof. Chanyoung Park) | |
| BS | Korea Advanced Institute of Science and Technology (KAIST) | Feb 2018 – Aug 2022 |
| | <ul style="list-style-type: none"> Industrial & Systems Engineering | |

Experience

- | | |
|--|--|
| University of California San Diego , Visiting Scholar | San Diego, CA, USA
Jan 2025 – Jul 2025 |
| <ul style="list-style-type: none"> Department: Computer Science and Engineering Host: Prof. Julian McAuley Project: Large Language Models for Multi-Modal-based Recommender Systems | |
| NAVER , Research Intern | Seongnam, South Korea
Dec 2022 – Feb 2023 |
| <ul style="list-style-type: none"> Mentors: Dr. Donghyun Kim, and Dr. Min-Chul Yang Project: Learning Universal User Representation through Continual Learning | |
| URP , Undergraduate Research Program | Daejeon, South Korea
Jul 2021 – Dec 2021 |
| <ul style="list-style-type: none"> Advisor: Prof. Chanyoung Park Project: Heterogeneous graph learning for Multi-Modal medical data analysis | |

Publications

[10] Lost in Sequence: Do Large Language Models Understand Sequential Recommendation?

Sein Kim*, Hongseok Kang*, Kibum Kim, Jiwan Kim, Donghyun Kim, Minchul Yang, Kwangjin Oh, Julian McAuley, Chanyoung Park

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2025**)

[9] Disentangling and Generating Modalities for Recommendation in Missing Modality Scenarios

Jiwan Kim, Hongseok Kang, **Sein Kim**, Kibum Kim, Chanyoung Park

ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2025**)

[8] Dynamic Time-aware Continual User Representation Learning

Seungyoon Choi, **Sein Kim**, Hongseok Kang, Wonjoong Kim, Chanyoung Park

ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2025**)

[7] Subgraph Federated Learning for Local Generalization

Sungwon Kim, Yoonho Lee, Yunhak Oh, Namkyeong Lee, Sukwon Yun, Junseok Lee, **Sein Kim**, Carl Yang, Chanyoung Park

The Thirteenth International Conference on Learning Representations (**ICLR 2025 Oral**) & KDD 2024 Workshop on Federated Learning for Data Mining and Graph Analytics (**FedKDD**)

[6] Large Language Models meet Collaborative Filtering: An Efficient All-round LLM-based Recommender System

Sein Kim*, Hongseok Kang*, Seungyeon Choi, Donghyun Kim, Min-chul Yang, Chanyoung Park

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2024**)

[5] DSLR: Diversity Enhancement and Structure Learning for Rehearsal-based Graph Continual Learning

Seungyeon Choi*, Wonjoong Kim*, Sungwon Kim, Yeonjun In, **Sein Kim**, Chanyoung Park

ACM Web Conference 2024 (**WWW 2024 Oral**)

[4] MUSE: Music Recommender System with Shuffle Play Recommendation Enhancement

Yunhak Oh, Sukwon Yun, Dongmin Hyun, **Sein Kim**, Chanyoung Park

ACM International Conference on Information and Knowledge Management (**CIKM 2023**)

[3] Shift-Robust Molecular Relational Learning with Causal Substructure

Namkyeong Lee, Kanghoon Yoon, Gyoung S. Na, **Sein Kim**, Chanyoung Park

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2023**)

[2] Task Relation-aware Continual User Representation Learning

Sein Kim, Namkyeong Lee, Donghyun Kim, Min-chul Yang, Chanyoung Park

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2023**)

[1] Heterogeneous Graph Learning for Multi-modal Medical Data Analysis

Sein Kim, Namkyeong Lee, Junseok Lee, Dongmin Hyun, Chanyoung Park

Thirty-Seventh AAAI Conference on Artificial Intelligence (**AAAI 2023 Oral**)

[Preprint] Image is All You Need: Towards Efficient and Effective Large Language Model-Based Recommender Systems

Kibum Kim, **Sein Kim**, Hongseok Kang, Jiwan Kim, Heewoong Noh, Yeonjun In, Kanghoon Yoon, Jinoh Oh, Chanyoung Park

(Arxiv)

[Preprint] Toward Generalizability of Graph-based Imputation on Biomedical Tabular-based Missing Data

Sukwon Yun, Yunhak Oh, Junseok Lee, Xin Liu, Tsuyoshi Murata,

Dongmin Hyun, **Sein Kim**, Tianlong Chen, Chanyoung Park

(OpenReview)

Awards

Excellent Reviewer

- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) [2025]

Projects

NAVER-Intel-KAIST Joint AI Research: Develop Multi-modal LLMs for Recommendation

Intel
July 2024 - April 2025

- Recommendation Systems
- Multi-modal Large Language Models
- Gaudi-v2

Research and Development on Integrated Large Language Models for Enhanced Recommendation Systems

NAVER Shopping
Dec 2023 - Dec 2024

- Recommendation Systems
- Large Language Models

Continual Learning for Universal User Representation for Recommendation

- Recommendation Systems
- Universal User Representation
- Continual Learning

NAVER Shopping
Jul 2022 - Jul 2023

Recommendation Systems for Financial Products by Graph Representation Learning

- Recommendation Systems
- Graph Representation Learning
- Financial Products

KEB Hana Bank
Feb 2021 - Feb 2022

Professional Services

Session Chair

- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) [2025]

Reviewer

- ACM International Conference on Information and Knowledge Management (CIKM) ADS Track [2025]
- ACM International Conference on Information and Knowledge Management (CIKM) Short Paper Track [2025]
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) [2025]
- PAKDD Workshop on Graph Learning with Foundation Models (PAKDD-GLFM) [2025]