Namkyeong Lee

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RESEARCH INTEREST

Applied Machine Learning

By leveraging the power of Machine Learning, I'm interested in bringing insights and advancements to various scientific fields, including chemistry, biology, and more.

- Graph Neural Networks for Chemistry and Biology
- Graph Representation Learning

EDUCATION

KAIST (Korea Advanced Institute of Science and Technology)

■ Ph.D. in Industrial and Systems Engineering

Mar 2023 – Present

- Research Interest: Graph Representation Learning, AI4Science
- Advisor: Prof. Chanyoung Park

KAIST (Korea Advanced Institute of Science and Technology)

• M.S. in Industrial and Systems Engineering

Mar 2021 – Feb 2023

- GPA: 3.85/4.3
- Research Interest: Graph Representation Learning, Graph Mining
- Advisor: Prof. Chanyoung Park

Korea University

■ B.S. in Industrial Management Engineering

Mar 2015 – Feb 2021

- GPA: 3.9/4.5
- Dean's List (Spring 2019)

POSITIONS

University of Illinois at Urbana-Champaign, Urbana, IL, USA

Sep 2023 – Present

- Visiting Scholar in Computer Science Department
 - Host: Prof. Jimeng Sun
 - Project: Uncertainty Quantification for Polymorphic Crystalline Materials
 - Project: Large Language Models for Drug Discovery

NAVER, Seongnam, Korea

Dec 2022 - Feb 2023

- Research Intern
 - Mentors: Dr. Donghyun Kim and Dr. Min-Chul Yang
 - Project: Learning Continual User Representation for Recommendation

AISoftKorea, Seoul, Korea

Jun 2020 - Mar 2021

- Co-founder of an AI-based Legal Counseling Startup Company
 - Building AI model for providing qualified answers to Korean legal questions

PUBLICATIONS

CONFERENCES

(†: Equal contribution)

- [C9] Density of States Prediction of Crystalline Materials via Prompt-guided Multi-Modal Transformer Namkyeong Lee[†], Heewoong Noh[†], Sungwon Kim, Dongmin Hyun, Gyoung S. Na, Chanyoung Park
 - Conference on Neural Information Processing Systems (NeurIPS 2023)
- [C8] 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)
- [C7] 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)
- [C6] Task-Equivariant Graph Few-shot Learning Sungwon Kim, Junseok Lee, Namkyeong Lee, Wonjoong Kim, Seungyoon Choi, Chanyoung Park
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD 2023**)

 [C5] Conditional Graph Information Bottleneck for Molecular Relational Learning

Namkyeong Lee, Dongmin Hyun, Gyoung S. Na, Sungwon Kim, Junseok Lee, Chanyoung Park International Conference on Machine Learning (**ICML 2023**)

[C4] Heterogeneous Graph Learning for Multi-modal Medical Data Analysis

	 Academic Excellence Award for attaining a semester GPA of 4.5 / 4.5 	
	Special Scholarship for the Student Affairs Office, Korea University	Fall 2019, Spring 2020
	 Veritas Scholarship, Korea University Research on optimize drone routing with trucks for on-demand services Advisor: Prof. Taesu Cheong 	Spring 2020
	Certificate, Korea National Police AgencyAn exemplary auxiliary police.	2018
TEACHING EXPERIENCE	Teaching Assistant■ IE343: Statistical Machine Learning■ CoE202: Basics of Artificial Intelligence	Spring 2021 - 2023 Fall 2021
PROFESSIONAL SERVICES	 Conference Reviews AAAI Conference on Artificial Intelligence (AAAI) International Conference on Machine Learning (ICML) International Conference on Learning Representations (ICLR) Learning on Graphs Conference (LoG) Conference on Neural Information Processing Systems (NeurIPS) 	2023 - 2024 2024 2024 2023 2023
	Journal Reviews ■ ACM Transactions on Knowledge Discovery from Data (TKDD) ■ IEEE Transactions on Neural Networks and Learning Systems (TNNLS) ■ World Wide Web	
	 Workshop Reviews New Frontiers of AI for Drug Discovery and Development (AI4D3) @ NeurIPS Computational Biology (WCB) @ ICML Structured Probabilistic Inference & Generative Modeling (SPIGM) @ ICML 	5 2023 2023 2023
TALKS AND SEMINARS	Conditional Graph Information Bottleneck for Molecular Relational Learning Learning on Graphs and Geometry (LoGG) Reading Group	g 2024
	Relational Self-Supervised Learning on Graphs Top Conference Session of Korea Software Congress (KSC)	2022
	Augmentation-Free Self-Supervised Learning on GraphsTop Conference Session of Korea Computer Congress (KCC)	2022
REFERENCES	Prof. Chanyoung Park Assistant Professor, Korea Advanced Institute of Science and Technology (KAI E-mail: cy.park@kaist.ac.kr	(ST)
	Prof. Jimeng Sun Health Innovation Professor, University of Illinois at Urbana-Champaign (UIUC E-mail: jimeng@illinois.edu	C)
	Prof. Tianfan Fu Assistant Professor, Rensselaer Polytechnic Institute (RPI)	

Assistant Professor, Rensselaer Polytechnic Institute (RPI)

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[CV compiled on 2024-02-15]