

Sukwon Yun

swyun@cs.unc.edu • [Homepage](#) • [Google Scholar](#) • [Github](#)

RESEARCH INTEREST

AI for Science

- Addressing the inductive bias of AI (GNNs, LLMs) in real-world scenarios, with their application in the field of Computational Biology, particularly scRNA-seq and Tumor biology
- **Keywords:** Long-Tail Problem, Missing Features, Heterophily, Dropout, Tissue Phenotyping

EDUCATION

University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

Starting from Aug 2024 –

- Ph.D. in Computer Science
 - Research Interest: AI4Science, Efficient ML
 - Advisor: [Prof. Tianlong Chen](#)

Korea Advanced Institute of Technology (KAIST), Daejeon, South Korea

Aug 2021 – Aug 2023

- M.S. in Industrial & Systems Engineering
 - Research Interest: Graph Neural Networks, Recommender Systems
 - Advisor: [Prof. Chanyoung Park](#)

Hanyang University, Seoul, South Korea

Mar 2015 – Aug 2021

- B.S. in Industrial Engineering
 - *Summa Cum Laude*, Period includes two years of military service

PUBLICATIONS (*: Equal contribution)

CONFERENCES

- [C6] Mew: Multiplexed Immunofluorescence Image Analysis through an Efficient Multiplex Network
Sukwon Yun, Jie Peng, Alexandro Trevino, Chanyoung Park, Tianlong Chen
European Conference on Computer Vision (**ECCV 2024**)
- [C5] DEGNN: Dual Experts Graph Neural Network Handling Both Edge and Node Feature Noise
Tai Hasegawa, **Sukwon Yun**, Xin Liu, Yin Jun Phua, Tsuyoshi Murata
The Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD 2024**)
- [C4] 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**)
- [C3] S-Mixup: Structural Mixup for Graph Neural Networks
Junghun Kim*, **Sukwon Yun***, Chanyoung Park
ACM International Conference on Information and Knowledge Management (**CIKM Short 2023**)
- [C2] MELT: Mutual Enhancement of Long-Tailed User and Item for Sequential Recommendation
Kibum Kim, Dongmin Hyun, **Sukwon Yun**, Chanyoung Park
ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2023**)
- [C1] LTE4G: Long-Tail Experts for Graph Neural Networks
Sukwon Yun, Kibum Kim, Kanghoon Yoon, Chanyoung Park
ACM International Conference on Information and Knowledge Management (**CIKM 2022**)

JOURNALS

- [J1] Single-cell RNA sequencing data imputation using bi-level feature propagation
Junseok Lee*, **Sukwon Yun***, Yeongmin Kim, Tianlong Chen, Manolis Kellis, Chanyoung Park
Briefings in Bioinformatics (2024)

WORKSHOPS

- [W3] Subgraph Federated Learning for Local Generalization
Sungwon Kim, Yoonho Lee, Carl Yang, Yunhak Oh, Namkyeong Lee, **Sukwon Yun**, Junseok Lee, Sein Kim, Chanyoung Park
KDD 2024 Workshop on Federated Learning for Data Mining and Graph Analytics (**KDD FedKDD 2024 Oral**)
- [W2] Noise Robust Graph Learning under Feature-Dependent Graph-Noise
Yeonjun In, Kanghoon Yoon, **Sukwon Yun**, Kibum Kim, Sungchul Kim, Chanyoung Park
WWW 2024 Workshop on Data-centric Artificial Intelligence (**WWW DCAI 2024 Oral**)

[W1] Single-cell RNA-seq data imputation using Feature Propagation
Sukwon Yun*, Junseok Lee*, Chanyoung Park
 ICML Workshop on Computational Biology (**ICML WCB 2023 Best Paper Award**)

RESEARCH EXPERIENCES	Massachusetts Institute of Technology (MIT) , Cambridge, MA	Aug 2023 – Present
	<ul style="list-style-type: none"> Remote Research Intern in Kellis Lab. Mentors: Dr. Tianlong Chen, Dr. Zunpeng Liu, Dr. Leandro Z. Agudelo, Dr. Lei Xiong 	
	Tokyo Institute of Technology (Tokyo Tech) , Tokyo, Japan	Oct 2022 – Feb 2023
	<ul style="list-style-type: none"> Visiting Researcher in Murata Lab. Host: Prof. Tsuyoshi Murata 	
	Korea Advanced Institute of Technology (KAIST) , Daejeon, South Korea	Dec 2020 – Feb 2021
	<ul style="list-style-type: none"> Research Intern in Data Science & Artificial Intelligence Lab. (DSAIL) Mentor: Prof. Chanyoung Park 	
	Hanyang University , Seoul, South Korea	Sep 2020 – Aug 2021
	<ul style="list-style-type: none"> Student Researcher in Intelligent Data Systems Lab. (IDSL) Mentor: Prof. Kichun Lee 	
TEACHING EXPERIENCE	KAIST	
	<ul style="list-style-type: none"> IE343: Statistical Machine Learning 	Spring, 2022
AWARDS & SCHOLARSHIPS	Best Paper Award	2023
	<ul style="list-style-type: none"> ICML Workshop on Computational Biology, Honolulu, Hawai'i, USA 	
	Korea National Scholarship	2021 – 2023
	<ul style="list-style-type: none"> Awarded by the Ministry of Science and ICT, South Korea 	
	Poster Competition Excellence Award	2022
	<ul style="list-style-type: none"> Awarded at Industrial/Social Problem Solving Session held by Department of ISysE, KAIST 	
	SIGIR Student Travel Award	2022
	<ul style="list-style-type: none"> ACM International Conference on Information and Knowledge Management, Georgia, USA 	
	Merit Based Scholarship	2021
	<ul style="list-style-type: none"> Awarded by the Department of Industrial Engineering, Hanyang University 	
	Hanyang Academic Achievement Award	2021
	<ul style="list-style-type: none"> Awarded within the top 3% among the College of Engineering, Hanyang University 	
	Certificate of Recognition	2018
	<ul style="list-style-type: none"> Awarded when serving military service as an auxiliary police by Seoul Metropolitan Police 	
PROFESSIONAL SERVICES	Event Organizations	
	<ul style="list-style-type: none"> Session Chair, Knowledge Representation 3, CIKM 2023, Birmingham, UK 	
	Program Committee	
	<ul style="list-style-type: none"> AAAI Conference on Artificial Intelligence (AAAI) 	2025
	Conference Reviews	
	<ul style="list-style-type: none"> The European Conference on Computer Vision (ECCV) 	2024
	<ul style="list-style-type: none"> International Conference on Machine Learning (ICML) 	2024
	<ul style="list-style-type: none"> The International Conference on Learning Representations (ICLR) 	2024
	<ul style="list-style-type: none"> Conference on Parsimony and Learning (CPAL) 	2024
	<ul style="list-style-type: none"> Conference on Neural Information Processing Systems (NeurIPS) 	2023, 2024
	Workshop Reviews	
	<ul style="list-style-type: none"> ML4LMS Workshop @ ICML 	2024
	<ul style="list-style-type: none"> ASEA Workshop @ AAAI 	2024
REFERENCES	<ul style="list-style-type: none"> Prof. Tianlong Chen, Assistant Professor, UNC Email: tianlong@cs.unc.edu 	
	<ul style="list-style-type: none"> Prof. Chanyoung Park, Assistant Professor, KAIST Email: cy.park@kaist.ac.kr 	
	<ul style="list-style-type: none"> Prof. Tsuyoshi Murata, Professor, Tokyo Tech Email: murata@c.titech.ac.jp 	