

Sukwon Yun

sukwon@cs.washington.edu • [Homepage](#) • [Google Scholar](#) • [Github](#)

RESEARCH INTEREST

AI for Science

- Multimodal learning and multi-agent systems for modeling cellular behavior and protein design

EDUCATION

University of Washington, Seattle, WA, USA Sep 2026 –

- Ph.D. in Computer Science (Advisor: [Prof. Su-In Lee](#))

University of North Carolina at Chapel Hill, Chapel Hill, NC, USA Aug 2024 – Dec 2025

- M.S. in Computer Science (Advisor: [Prof. Tianlong Chen](#))

Korea Advanced Institute of Technology (KAIST), Daejeon, South Korea Aug 2021 – Aug 2023

- M.S. in Industrial & Systems Engineering (Advisor: [Prof. Chanyoung Park](#))

Hanyang University, Seoul, South Korea Mar 2015 – Aug 2021

- B.S. in Industrial Engineering, *Summa Cum Laude*

RESEARCH EXPERIENCES

Genentech, South San Francisco, CA, USA May 2025 – Aug 2025

- Research Intern in Regev Lab.
 - Mentors: [Prof. Aviv Regev](#), [Dr. Russell Littman](#)

University of North Carolina at Chapel Hill, Chapel Hill, NC, USA Aug 2024 – May 2025

- Research Assistant in UNITES Lab.
 - Advisor: [Prof. Tianlong Chen](#)

Massachusetts Institute of Technology (MIT), Cambridge, MA, USA Aug 2023 – Jul 2024

- Remote Research Intern in Kellis Lab.
 - Mentors: [Dr. Tianlong Chen](#), [Dr. Zunpeng Liu](#)

Tokyo Institute of Technology (Tokyo Tech), Tokyo, Japan Oct 2022 – Feb 2023

- Visiting Researcher in Murata Lab.
 - Host: [Prof. Tsuyoshi Murata](#)

Korea Advanced Institute of Technology (KAIST), Daejeon, South Korea Dec 2020 – Feb 2021

- Research Intern in Data Science & Artificial Intelligence Lab.
 - Mentor: [Prof. Chanyoung Park](#)

SELECTED

PUBLICATIONS

(FULL LIST IN THE END)

*: Equal contribution

#: Co-correspondence

Graph-of-Agents: A Graph-Based Framework for Multi-Agent LLM Collaboration

Sukwon Yun, *et al.*, Tianlong Chen

International Conference on Learning Representations (**ICLR 2026**)

Flex-MoE: Modeling Arbitrary Modality Combination via the Flexible Mixture-of-Experts

Sukwon Yun, *et al.*, Tianlong Chen

Conference on Neural Information Processing Systems (**NeurIPS 2024 Spotlight**)

Mew: Multiplexed Immunofluorescence Image Analysis through an Efficient Multiplex Network

Sukwon Yun, *et al.*, Tianlong Chen

European Conference on Computer Vision (**ECCV 2024**)

Single-cell RNA-seq data imputation using Feature Propagation

Sukwon Yun*, Junseok Lee*, Chanyoung Park

International Conference on Machine Learning (**ICML 2023 WCB Best Paper Award**)

LTE4G: Long-Tail Experts for Graph Neural Networks

Sukwon Yun, *et al.*, Chanyoung Park

ACM International Conference on Information and Knowledge Management (**CIKM 2022**)

AWARDS & SCHOLARSHIPS

NeurIPS Top Reviewer 2025

- The Thirty-Ninth Annual Conference on Neural Information Processing Systems, San Diego, CA, USA

Best Paper Award 2025

- AAAI Workshop on Large Language Models and Generative AI for Health, Philadelphia, PA, USA

Best Paper Award 2024

- KDD Workshop on Federated Learning for Data Mining and Graph Analytics, Barcelona, Spain

Best Paper Award 2023

- ICML Workshop on Computational Biology, Honolulu, Hawai'i, USA

Korea National Scholarship	2021 – 2023
▪ Awarded by the Ministry of Science and ICT, South Korea	
Poster Competition Excellence Award	2022
▪ Awarded at Industrial/Social Problem Solving Session held by Department of ISysE, KAIST	
SIGIR Student Travel Award	2022
▪ ACM International Conference on Information and Knowledge Management, Georgia, USA	
Merit Based Scholarship	2021
▪ Awarded by the Department of Industrial Engineering, Hanyang University	
Hanyang Academic Achievement Award	2021
▪ Awarded within the top 3% among the College of Engineering, Hanyang University	
Certificate of Recognition	2018
▪ Awarded when serving military service as an auxiliary police by Seoul Metropolitan Police	

**TEACHING
EXPERIENCE**

University of North Carolina at Chapel Hill	Fall, 2025
▪ COMP283: Discrete Structures	
KAIST	Spring, 2022
▪ IE343: Statistical Machine Learning	

**PROFESSIONAL
SERVICES**

Event Organizations	
▪ Session Chair, Knowledge Representation 3, Birmingham, UK, CIKM (2023)	
Program Committee	
▪ AAAI (2025, 2026)	
Conference Reviews	
▪ NeurIPS (2023 -), ICLR (2024 -), ICML (2024 -), CVPR (2025), ICCV (2025), ECCV (2024), MICCAI (2025), ACL (2025), COLM (2025), KDD (2025), CPAL (2024 -)	
Workshop Reviews	
▪ GenAI4Health @ AAAI (2025), ML4LMS @ ICML (2024), ASEA @ AAAI (2024)	

**FULL
PUBLICATIONS**
*: Equal contribution
#: Co-correspondence

CONFERENCES	
[C21] Graph-of-Agents: A Graph-Based Framework for Multi-Agent LLM Collaboration Sukwon Yun , Jie Peng, Pingzhi Li, Wendong Fan, Jie Chen, James Zou, Guohao Li, Tianlong Chen International Conference on Learning Representations (ICLR 2026)	
[C20] BetaConform: Efficient MAP Estimation of LLM Ensemble Judgment Performance with Prior Transfer Huaizhi Qu, Inyoung Choi, Zhen Tan, Song Wang, Sukwon Yun , Qi Long, Faizan Siddiqui, Kwonjoon Lee, Tianlong Chen Conference on Neural Information Processing Systems (NeurIPS 2025)	
[C19] Training Robust Graph Neural Networks by Modeling Noise Dependencies Yeonjun In, Kanghoon Yoon, Sukwon Yun , Kibum Kim, Sungchul Kim, Chanyoung Park Conference on Neural Information Processing Systems (NeurIPS 2025)	
[C18] Oldie but Goodie: Re-illuminating Label Propagation on Graphs with Partially Observed Features Sukwon Yun , Xin Liu, Yunhak Oh, Junseok Lee, Tianlong Chen, Tsuyoshi Murata, Chanyoung Park ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2025)	
[C17] Spatial Coordinates as a Cell Language: A Multi-Sentence Framework for Imaging Mass Cytometry Analysis Chi-Jane Chen*, Yuhang Chen*, Sukwon Yun* , Natalie Stanley, Tianlong Chen Annual Meeting of the Association for Computational Linguistics (ACL 2025 Findings)	
[C16] GRNFormer: A Biologically-Guided Framework for Integrating Gene Regulatory Networks into RNA Foundation Models Mufan Qiu, Xinyu Hu, Fengwei Zhan, Sukwon Yun , Jie Peng, Ruichen Zhang, Bhavya Kailkhura, Jiekun Yang, Tianlong Chen Annual Meeting of the Association for Computational Linguistics (ACL 2025 Findings)	
[C15] Agents Under Siege: Breaking Pragmatic Multi-Agent LLM Systems with Optimized Prompt Attacks Rana Shahroz, Zhen Tan, Sukwon Yun , Charles Fleming, Tianlong Chen Annual Meeting of the Association for Computational Linguistics (ACL 2025 Oral)	

- [C14] I²MoE: Interpretable Multimodal Interaction-aware Mixture-of-Experts
 Jiayi Xin, **Sukwon Yun**, Jie Peng, Inyoung Choi, Jenna L. Ballard, Tianlong Chen, Qi Long
 International Conference on Machine Learning (**ICML 2025**)
- [C13] Modalities Contribute Unequally: Enhancing Medical Multi-modal Learning through Adaptive Modality Token Re-balancing
 Jie Peng, Jenna L. Ballard, Mohan Zhang, **Sukwon Yun**, Jiayi Xin, Qi Long, Yanyong Zhang, Tianlong Chen
 International Conference on Machine Learning (**ICML 2025**)
- [C12] Sparse MoE as a New Treatment: Addressing Forgetting, Fitting, Learning Issues in Multi-Modal Multi-Task Learning
 Jie Peng, **Sukwon Yun**, Kaixiong Zhou, Ruida Zhou, Thomas Hartvigsen, Yanyong Zhang, Zhangyang Wang, Tianlong Chen
 Conference on Parsimony and Learning (**CPAL 2025**)
- [C11] Cut the Crap: An Economical Communication Pipeline for LLM-based Multi-Agent Systems
 Guibin Zhang, Yanwei Yue, Zhixun Li, **Sukwon Yun**, Guancheng Wan, Kun Wang, Dawei Cheng, Jeffrey Xu Yu, Tianlong Chen
 International Conference on Learning Representations (**ICLR 2025**)
- [C10] PortLLM: Personalizing Evolving Large Language Models with Training-Free and Portable Model Patches
 Rana Muhammad Shahroz Khan, Pingzhi Li*, **Sukwon Yun***, Zhenyu Wang, Shahriar Nirjon, Chau-Wai Wong, Tianlong Chen
 International Conference on Learning Representations (**ICLR 2025**)
- [C9] Subgraph Federated Learning for Local Generalization
 Sungwon Kim, Yoonho Lee, Yunhak Oh, Namkyeong Lee, **Sukwon Yun**, Junseok Lee, Sein Kim, Carl Yang, Chanyoung Park
 International Conference on Learning Representations (**ICLR 2025 Oral**)
- [C8] Flex-MoE: Modeling Arbitrary Modality Combination via the Flexible Mixture-of-Experts
Sukwon Yun, Inyoung Choi, Jie Peng, Yangfan Wu, Jingxuan Bao, Qiyiwen Zhang, Jiayi Xin, Qi Long[#], Tianlong Chen[#]
 Conference on Neural Information Processing Systems (**NeurIPS 2024 Spotlight**)
- [C7] DALK: Dynamic Co-Augmentation of LLMs and KG to answer Alzheimer’s Disease Questions with Scientific Literature
 Dawei Li, Shu Yang, Zhen Tan, Jae Young Baik, **Sukwon Yun**, Joseph Lee, Aaron Chacko, Bojian Hou, Duy Duong-Tran, Ying Ding, Huan Liu, Li Shen, Tianlong Chen
 Conference on Empirical Methods in Natural Language Processing (**EMNLP 2024 Findings**)
- [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
 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
 Junghurn Kim*, **Sukwon Yun***, Chanyoung Park
 ACM International Conference on Information and Knowledge Management (**CIKM 2023 Short**)
- [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

- [J2] Single-cell multiregion epigenomic rewiring in Alzheimer's disease progression and cognitive resilience
Zunpeng Liu*, Shanshan Zhang*, Benjamin T. James, Kyriaki Galani, Riley J. Mangan, Stuart Benjamin Fass, Chuqian Liang, Manoj M Wagle, Carles A. Boix, Yosuke Tanigawa, **Sukwon Yun**, Yena Sung, Xushen Xiong, Na Sun, Lei Hou, Martin Wohlwend, Mufan Qiu, Xikun Han, Lei Xiong, Efthalia Preka, Lei Huang, William F. Li, Li-Lun Ho, Amy Grayson, Julio Mantero, Alexey Kozlenkov, Hansruedi Mathys, Tianlong Chen, Stella Dracheva, David A. Bennett, Li-Huei Tsai, Manolis Kellis
Cell 2025
- [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

- [W7] Sparse Mixture-of-Experts for Multi-Channel Imaging: Are All Channel Interactions Required?
Sukwon Yun, Heming Yao, Burkhard Hockendorf, David Richmond, Aviv Regev[#], Russell Littman[#]
NeurIPS 2025 AI for Science
- [W6] Graph-of-Agents: A Graph-Based Framework for Multi-Agent LLM Collaboration
Sukwon Yun, Jie Peng, Pingzhi Li, Wendong Fan, Jie Chen, James Zou, Guohao Li, Tianlong Chen
ICML 2025 MAS
- [W5] One Leaf Knows Autumn: A Piece of Data-Model Facilitates Efficient Cancer Prognosis with Histological and Genomic Modalities
Jie Peng, Jingxia Jiang, Yueliang Ying, **Sukwon Yun**, Qi Long, Yanyong Zhang, Tianlong Chen
AAAI GenAI4Health 2025
- [W4] Generate, Then Retrieve: Addressing Missing Modalities in Multimodal Learning via Generative AI and MoE
Sukwon Yun*, Jiayi Xin*, Inyoung Choi, Jie Peng, Qi Long, Tianlong Chen
AAAI GenAI4Health 2025 Best Paper Award
- [W3] Subgraph Federated Learning for Local Generalization
Sungwon Kim, Yoonho Lee, Yunhak Oh, Namkyeong Lee, **Sukwon Yun**, Junseok Lee, Sein Kim, Carl Yang, Chanyoung Park
KDD 2024 FedKDD Best Paper Award
- [W2] Noise Robust Graph Learning under Feature-Dependent Graph-Noise
Yeonjun In, Kanghoon Yoon, **Sukwon Yun**, Kibum Kim, Sungchul Kim, Chanyoung Park
WWW 2024 DCAI Oral
- [W1] Single-cell RNA-seq data imputation using Feature Propagation
Sukwon Yun*, Junseok Lee*, Chanyoung Park
ICML 2023 WCB Best Paper Award

PREPRINT

- [P2] Symbolic Mixture-of-Experts: Adaptive Skill-based Routing for Heterogeneous Reasoning
Justin Chih-Yao Chen*, **Sukwon Yun***, Elias Stengel-Eskin*, Tianlong Chen, Mohit Bansal
- [P1] scMoE: single-cell Multi-Modal Multi-Task Learning via Sparse Mixture-of-Experts
Sukwon Yun*, Jie Peng*, Namkyeong Lee, Yanyong Zhang, Chanyoung Park, Zunpeng Liu, Tianlong Chen