

# Seonghyun Park

 Seoul, South Korea  
  hyun26@kaist.ac.kr  
  010-6869-1033  
  seonghyun26.github.io/hyun  
 shpark26  
  seonghyun26  
  Google Scholar

## Summary

I'm a second-year Ph.D. candidate at Graduate School of AI at KAIST, advised by [Sungsoo Ahn](#). My Master's research focused on addressing the over-squashing phenomenon in Graph Neural Networks (GNNs) to capture long-range interactions in molecule graphs. Currently, my research focuses on **AI for Science (AI4Science)**, specifically integrating machine learning with biomolecular modeling and molecular dynamics (MD). Recently, I led a project on machine learning-based collective variables (CVs) for enhanced sampling of proteins, by repurposing foundation models.

## Publication

<b>Learning Collective Variables from BioEmu with Time-lagged Generation</b>	2026
<b>Seonghyun Park</b> , Kiyoung Seong, Soojung Yang, Rafael Gomez-Bombarelli, Sungsoo Ahn <a href="https://openreview.net/forum?id=1PYj4fMeLe">openreview.net/forum?id=1PYj4fMeLe</a> (ICLR 2026)	
<b>Transition Path Sampling with Improved Off-Policy Training of Diffusion Path Samplers</b>	2025
Kiyoung Seong, <b>Seonghyun Park</b> , Seonghwan Kim, Woo Youn Kim, Sungsoo Ahn <a href="https://iclr.cc/virtual/2025/poster/29361">iclr.cc/virtual/2025/poster/29361</a> (ICLR 2025)	
<b>Non-backtracking Graph Neural Networks</b>	2024
<b>Seonghyun Park*</b> , Narae Ryu*, Gahee Kim, Dongyeop Woo, Se-Young Yun**, Sungsoo Ahn** <a href="https://arxiv.org/abs/2310.07430">arxiv.org/abs/2310.07430</a> (TMLR 2024, NeurIPS 2023 GLFrontiers Workshop (Oral))	
<b>Diffusion Probabilistic Models for Structured Node Classification</b>	2023
Hyosoon Jang, <b>Seonghyun Park</b> , Sangwoo Mo, Sungsoo Ahn <a href="https://neurips.cc/virtual/2023/poster/72405">neurips.cc/virtual/2023/poster/72405</a> (NeurIPS 2023)	

## Education

<b>Ph.D. Korea Advanced Institute of Science and Technology (KAIST)</b> , Kim Jaechul	Seoul, South Korea
Graduate School of Artificial Intelligence	Feb 2025 – present
<ul style="list-style-type: none"> <li><a href="#">Structured and Probabilistic Machine Learning Lab</a> @ Sungsoo Ahn</li> <li>Interest: Bio-molecules, Molecular dynamics (MD)</li> </ul>	
<b>M.S. Pohang University of Science and Technology (POSTECH)</b> , Graduate School of Computer Science and Engineering (CSE)	Pohang, South Korea
<ul style="list-style-type: none"> <li><a href="#">Machine Learning</a> Lab @ Sungsoo Ahn</li> <li>Interest: Graph Neural Networks (GNNs), Over-squashing</li> </ul>	Feb 2023 – Feb 2025
<b>E.S. Institut National des Sciences Appliquées (INSA) Lyon</b> , Bioinfomatics	Lyon, France
Exchange Student	Jan 2022 – June 2022
<b>B.S. Pohang University of Science and Technology (POSTECH)</b> , Computer Science and Engineering (CSE)	Pohang, South Korea
	Feb 2019 – Feb 2023

## Experience

<b>Bagelcode</b> , Buisness Analyst (BA) intern	Seoul, South Korea
KPI routines automation and game economy management	June 2021 – Aug 2021
<b>Seller Hub</b> , Product Manager (PM) intern	Seoul, South Korea
Task priority management and landing page renewal	July 2020 – Aug 2020