Yewon Shin

M.S./Ph.D. integrated student
Gwangju institute of science and technology
yewon.shin@gm.gist.ac.kr

EDUCATION

Aug. 2023 ~ Present	**Gwangju Institute of Science and Technology** AI Graduate School *Advisor: Hojung Nam* *Ph.D. Student*	Gwangju, Korea
Sep. 2021 ~ Aug. 2023	**Pusan National University** Department of information convergence engineering *Advisor: Sunyoung Kwon* *M.S in Artificial Intelligence* GPA: 4.31 / 4.5	Busan, Korea
Mar. 2017 ~ Aug. 2021	**Pusan National University** Department of Molecular biology *B.S. in Molecular biology, Chemistry* GPA: 3.84 / 4.5	Busan, Korea

PUBLICATIONS (SCIE/ESCI)

1. Minsu Park,Yewon Shin,Hyunho Kim,Hojung Nam, "Enhancing multi-task in vivo toxicity prediction via integrated knowledge transfer of chemical knowledge and in vitro toxicity information", *JOURNAL OF CHEMINFORMATICS*, (2025)
2. Hyunho Kim,Bongsung Bae,Minsu Park,Yewon Shin,Trey Ideker,Hojung Nam, "A genotype-to-drug diffusion model for generation of tailored anti-cancer small molecules", *NATURE COMMUNICATIONS*, (2025)
3. MinChae Kang,Minsoo Kim,Min Wook Kim,Yewon Shin,Jejoong Yoo,Sang Hak Lee, "Aggregation or Phase Separation can be Induced in Highly Charged Protein by Small Charged Biomolecules", *SOFT MATTER*, (2022)

PUBLICATIONS (DOMESTIC)

1. 신예원, 문기성, 정영석, 권선영, "Explainable Graph Neural Network for Medical Science Research ", Journal of KIISE, (2022)
2. 손연경, 신예원, 권선영, "Explainable Artificial Intelligence in Molecular Graph Classification", Journal of KIISE, (2024)

PATENTS

1. 배순식, 하홍구, 권선영, 신예원, "전립선암 예측용 바이오마커 조성물, 이를 이용한 키트 및 이를 이용한 정보 제공방법", KR-Application No. 10-2024-0014540 (출원)

CONFERENCES

1. Yewon Shin, Hojung Nam, "Motif-based graph representation learning with hierarchical vector quantization for toxicity prediction", ISMB/ECCB 2025, Liverpool, United Kingdom (Jul. 2025) - Poster
2. Yewon Shin, Hojung Nam, "Hierarchical molecular representation learning with multi-level vector quantization for compound toxicity prediction", BIOINFO 2025, Suwon, Korea (Oct. 2025) - Poster
3. 손연경, 신예원, 권선영, "분자 그래프 신경망 기반 설명 가능한 인공지능 비교 연구", KCC2023, Jeju, Korea (Jun. 2023) - Oral
4. 신예원, 노다솜, 권선영, "분자 성질 예측을 위한 멀티 모달 분자 표현형 학습", KSC2022, Jeju, Korea (Dec. 2022) - Oral
5. 문기성, 신예원, 강전일, 권선영, "다제내성 결핵균 예측을 위한 다중레이블 분류 모델 연구 ", KCC2022, Jeju, Korea (Jun. 2022) - Oral

TEACHING EXPERIENCES

LG DIC Program(LG Electronics Inc., Changwon, April 2022)

Teaching Assistance

- Conducting machine learning basics and practical classes and served as a mentor for machine learning projects using factory data.

Machine Learning (Spring 2022)

Teaching Assistance

- School of Biomedical Convergence Engineering, Pusan National University

Programming Principles and Practices (Fall 2021)

Teaching Assistance

- School of Biomedical Convergence Engineering, Pusan National University

SKILLS AND TECHNIQUES

- Python, Tensorflow, Pytorch, PyG, DGL, RDkit, etc

RESEARCH INTERESTS

- Graph neural networks
- Deep learning
- Drug discovery

AWARDS AND HONORS

- Best poster award, Korean Society for Bioinformatics, Korea (Oct. 2025)