Yewon Han

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Github: https://github.com/yewoonn

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Summary

Motivated undergraduate student who consistently strives to go beyond assigned responsibilities to deliver impactful outcomes. As a research intern at the AI Health Informatics Lab, I am contributing to drug response prediction (DRP) research that supports drug discovery. With a deep interest in expanding access to healthcare through technology, I am particularly drawn to the intersection of AI and biomedicine—focusing on large language models, multimodal learning, and bioinformatics. I am passionate about developing AI solutions that are not only scientifically rigorous but also socially meaningful.

Education

Dongguk University

Bachelor of Computer Science Engineering
2022.03 ~ 2026.02 (Estimated)
GPA 4.26/4.5 (Total Credit: 115)

Experiences

Research

Undergraduate Research Intern, AI Health Informatics Lab, Dongguk University

(Supervisor: Prof. Sangsoo Lim)   Feb 2024 – Present

11/2024-Present — **Pathway-augmented Differential Transformers for Drug Response Prediction**
[Role] Preprocessed and Analyzed KEGG pathway and gene-drug response data; Developed AI models using differential attention for response prediction.

- Poster presented at RECOMB 2025 (top-tier computational biology conference)
- Paper submitted to KCC 2025 (awaiting review)

08/2024-09/2024 — **Developing Accurate and Trustworthy Machine Learning Force Fields for Battery Material Simulations**
[Role] Analyzed atomic structure data; improved MACE framework by incorporating edge-variant graph filter.

- Ranked within top 10% in Samsung MLFF Challenge (Dacon)

05/2024-08/2024 — **Deep Learning for Odor Similarity Prediction in Molecular Mixtures**
[Role] Constructed protein-level graphs from receptor sequence data using ProtBert embeddings;

- Participated in DREAM Challenge 2024
- Resulted in patent application (KR 10-2025-0003146)

Projects

11/2024-12/2024	**FLIP WALLET: A Reverse Budgeting App for Spending Goal Management** [Role] Designed the database schema and ERD; implemented the front-end interface with HTML, CSS, JS.
09/2024-03/2025	**Designing an Accessible Kiosk System with Screen Reader Support for the Visually Impaired** [Role] Led a team to design and develop an NFC-based ordering system for visually impaired users; conducted user research and interviews the Korean Digital Accessibility Association. Resulted in patent application (KR 10-2025-0028145)
09/2024-12/2024	**ToBucket: A Bucket List Management App Based on MBTI Personality Types** [Role] Designed user flow and class diagrams; led front-end implementation in React Native for an MBTI-personality-based bucket list app.
07/2024-09/2024	**Development of a Dental Disease Classification Model Using Medical Imaging** [Role] Performed EDA on dental X-ray data and organized technical documentation.
03/2024-06/2024	**Teamkerbell: A Web Platform for Competition Team Matching** [Role] Built front-end features with React and styled custom components; designed key UI elements and templates with Figma.
07/2023-11/2023	**Exploring Strategies to Revitalize the Chungmuro Commercial District Through Student Demand Analysis** [Role] Conducted data crawling via Selenium and demand analysis using pandas; led project management Received Excellence Award, Creative Problem-Solving Project, Dongguk University
03/2023-06/2023	**Arduino-Based Anti-Fogging Device** [Role] Developed an Arduino-based anti-fogging device with sensor control; researched humidity and temperature regulation techniques.

Others

- **Vice President & Planning Lead**, HI-SW IT Education Volunteering Club, Dongguk University (affiliated with the SW Education Center)
- **Youth Program Planner & Mentor**, Seoul Gangbuk Youth Center

Certifications

Jun. 2024	SQL Developer (SQLD), Korea Data Agency
Dec. 2023	Level 2 Certificate in Intellectual Property Competency (Nationally Certified), Korea Invention Promotion Association

Honors and Awards

Honors

Mar. 2024-Present	Academic Scholarship for 3 Semesters
June. 2023	Dongguk Love 1.1.1 Scholarship, Dongguk University Scholarship Foundation

Awards

Mar. 2024-Present	Semester Honors Students for 6 Semesters
Feb. 2025	1st Place, IoT Ideathon, *Dongguk University COSS Group*
Nov. 2024	Outstanding IT Mentoring Award (Special Education Program), Seoul Association for the Rehabilitation of the Disabled
Dec. 2023	Excellence Award, Creative Problem-Solving Project, Teaching & Learning Innovation Center, Dongguk University
Sep. 2023	4th Place, Speech Contest, College of Engineering & AI Convergence College, Dongguk University

Patents

Lim, S., Lee, M., Lee, Y., and **Han, Y.** (2025). System and Method for Predicting Olfactory Characteristics of Odor Mixture Data.

- Application No. 10-2025-0003146 (South Korea), *Under Registration Review*

Han, Y., Ahn, S., Kim, J., Joo, H., Kim, J., Kim, M., and Lee, G. (2025). Screen Reader-based Kiosk System to Improve Accessibility for the Visually Impaired.

- Application No. 10-2025-0028145 (South Korea), *Under Registration Review*

Language Skills

English: Intermediate High

- Participated in English Study Program in Wisconsin English Second Language Institute, The United States (for 2 months)
- TOEIC Speaking Intermediate High (150/200, Mar. 2025)

Technical Skills

- **Programming Language**: Python, Java, C
- **AI/ML**: PyTorch, Pandas, NumPy, Scikit-learn, Matplotlib, Streamlit, CUDA
- **Frontend**: HTML, CSS, Java/TypeScript, React, React Native
- **Design**: Figma
- **Deployment & Hosting**: Netlify, Docker
- **Collaboration Tools**: Notion, GitHub, Slack