Ganghui Yi

⌂ hughyi.github.io

RESEARCH INTERESTS

AI for Healthcare, Applied Machine Learning, Precision Medicine

EDUCATION

University of Southern California Aug 2025 – Present
Master of Science, Computer Science Los Angeles, California

Sogang University Mar 2017 – Feb 2024
Bachelor of Science in Engineering, Computer Science and Engineering Seoul, Korea
Bachelor of Science, Life Science (Double Major)
Honors: ***Magna Cum Laude***
Major GPA: 3.87/4.3 (96.3/100), Cumulative GPA: 3.81/4.3 (95.8/100)

Case Western Reserve University Aug 2022 – Dec 2022
Exchange Program Cleveland, Ohio

PUBLICATIONS

Journal / Conference Publications

Yi, G.*, Ju, J.*, & Jo, K.# Few-Shot Learning for Multi-Omics Disease Classification with a MAML-Based Model.
KIPS Transactions on Software and Data Engineering (KTSDE), in press **2025**
* indicates co-first authorship, # indicates corresponding author.

Oral Presentations

Few-Shot Learning for Multi-Omics Disease Classification with a MAML-Based Model.
9th International Conference on Medical and Health Informatics (ICMHI), Kyoto, Japan **2025**

RESEARCH EXPERIENCES

Bioinformatics & Machine Learning Lab, Chungbuk National University Aug 2024 – Present
Research Intern Cheongju, Korea
Advisor: Prof. Kyuri Jo
Developed a Model-Agnostic Meta-Learning (MAML) few-shot learning model, pre-trained on The Cancer Genome Atlas (TCGA) to predict underrepresented diseases using Gene Expression Omnibus (GEO) data selected via DisGeNET Jaccard similarity.
Applied Differential Gene Expression (DGE) analysis for biomarker discovery and integrated Reactome pathways as hidden layers, using Layer Integrated Gradients to enhance model interpretability and identify key pathways.

Research Project, Sogang University Mar 2023 – Jun 2023
Undergraduate Researcher Seoul, Korea
Advisor: Prof. Jungmin So
Title: "Spectrum Sensing-Enhanced Federated Multi-Armed Bandit for Cognitive Radio"
Developed an enhanced Federated Multi-Armed Bandit (FMAB) algorithm for cognitive radio, improving spectrum access, reducing regret, and minimizing exploration costs through spectrum sensing.
Simulations demonstrated that client cooperation in the enhanced algorithm reduced communication costs and enabled more efficient decision-making compared to independent client models.

TECHNICAL EXPERIENCES

Google for Developers Machine Learning Bootcamp, Google Korea Jul 2024 – Oct 2024
Selected Participant Seoul, Korea
Completed a 14-week program combining Andrew Ng's Deep Learning Specialization with practical applications, including Kaggle competitions and a collaborative project, "Flight Schedule Optimization for Passengers", using Gemma open models.

Likelion Sogang, Likelion Mar 2021 – Dec 2021
Front-end Developer Seoul, Korea

Developed responsive and scalable user interfaces using React, HTML/CSS, and JavaScript for URL repository service, enhancing user experience by implementing URL saving, sharing, and keyword search functionality through hashtags and titles, streamlining collaboration and information retrieval.

27th Infantry Division, Republic of Korea Army (ROKA)   Jul 2019 – Jan 2021
Combat Medic Sergeant   Hwacheon, Korea
Led a squad during training missions, attained Special Warrior recognition, and provided medical support by assisting doctors, administering treatments, managing medications, and dispensing prescribed medicines.

SKILLS

Programming Languages: Python, C/C++, Java, HTML/CSS, JavaScript, MySQL
Frameworks/Packages: PyTorch, Pandas, scikit-learn, NumPy, Matplotlib
Tools: Git/GitHub, VS Code, VS Community, PyCharm, Unix Shell, LaTeX
Languages: Native in **Korean**, Advanced in **English**, Intermediate in **Chinese**, Basic in **Spanish**

TEACHING

9307261 Current Topics On Machine Learning, Chungbuk National University   Spring 2025
Teaching Assistant (working with Prof. Kyuri Jo)
5110134 Artificial Intelligence, Chungbuk National University   Fall 2024
Teaching Assistant (working with Prof. Kyuri Jo)

LEADERSHIP & SERVICES

Captain, STROKE (Sogang Swimming Club)   Fall 2023
Swimming Instructor for Children with Autism, Mapo Art Center Swimming Pool   Fall 2023
Member, STROKE (Sogang Swimming Club)   Spring 2022 – Fall 2023
English Tutor, P&E English, Seoul   Feb 2021 – Feb 2023
Squad Leader, 27th Infantry Division, ROKA   Jul 2020 – Jan 2021
Member, HUG (Sogang International Volunteer Club)   Spring 2017 – Spring 2019
Volunteer Korean Tutor for Korean Chinese, Yantai, China   Spring 2015 – Fall 2015

HONORS & AWARDS

Outstanding Startup Idea Award, Sogang University   Fall 2021
1st Place, Likelion Hackathon   Fall 2021
1st Place, Likelion Ideathon   Summer 2021

STANDARDIZED TEST SCORES

iBT TOEFL: 111 (Reading: 30/30, Listening: 29/30, Speaking: 28/30, Writing: 24/30)
GRE General Test: Verbal (157/170, 73%), Quant (170/170, 92%), Analytical Writing (4.5/6.0, 83%)