

Ganghui Yi

🏠 hughyi.github.io

RESEARCH INTERESTS

AI for Healthcare, Applied Machine Learning, Bioinformatics, Biomedical Imaging

EDUCATION

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

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-wise Relevance Propagation (LRP) to enhance model interpretability and identify key biomarkers.

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. [pdf][code]

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: C/C++, Python, Java, HTML/CSS, JavaScript, MySQL, Verilog

Frameworks/Packages: PyTorch, Pandas, scikit-learn, TensorFlow, Keras, NumPy, Matplotlib, React

Tools: Git/GitHub, VS Code, VS Community, PyCharm, Unix Shell, L^AT_EX
Languages: Native in **Korean**, Advanced in **English**, Intermediate in **Chinese**, Basic in **Spanish**

TEACHING

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%)