

Ganghui Yi

🏠 hughyi.github.io

RESEARCH INTERESTS

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

EDUCATION

Sogang University

Bachelor of Science in Engineering, Computer Science and Engineering

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)

Mar 2017 - Feb 2024

Seoul, Korea

Case Western Reserve University

Exchange Program

Aug 2022 - Dec 2022

Cleveland, Ohio

RESEARCH EXPERIENCES

Bioinformatics & Machine Learning Lab, Chungbuk National University

Research Intern

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 based on 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.

Aug 2024 – Present

Cheongju, Korea

Research Project, Sogang University

Undergraduate Researcher

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]

Mar 2023 – Jun 2023

Seoul, Korea

TECHNICAL EXPERIENCES

Google for Developers Machine Learning Bootcamp, Google Korea

Selected Participant

Engaged in a 14-week program combining deep learning theory (Andrew Ng's Deep Learning Specialization) with hands-on experience through Kaggle competitions and collaborative projects using Gemma open models.

Jul 2024 – Oct 2024

Seoul, Korea

Likelion Sogang, Likelion

Front-end Developer

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.

Mar 2021 – Dec 2021

Seoul, Korea

27th Infantry Division, Republic of Korea Army (ROKA)

Combat Medic Sergeant

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.

Jul 2019 – Jan 2021

Hwacheon, Korea

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%)