

# Ganghui Yi

🏠 [hughyi.github.io](https://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

Designed a MAML-based few-shot learning model, utilizing transfer learning from TCGA data to predict non-cancer diseases using GEO data selected through DisGeNet-based Jaccard similarity, and leveraged Differential Gene Expression (DGE) analysis for biomarker discovery.

Integrated Reactome pathways as hidden layers and applied explainable AI (XAI) techniques, such as LRP, to enhance model interpretability and identify key biomarkers through relevance score analysis.

### Research Project, Sogang University

Mar 2023 – Jun 2023

*Undergraduate Researcher*

Seoul, Korea

Advisor: Prof. Jungmin So

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

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.

### 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.

## TEACHING

### 5110134 Artificial Intelligence, Chungbuk National University

Fall 2024

*Teaching Assistant* (working with Prof. Kyuri Jo)

## LEADERSHIP & SERVICES

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

## HONORS & AWARDS

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

## 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,  $\text{\LaTeX}$   
**Languages:** Native in **Korean**, Advanced in **English**, Intermediate in **Chinese**, Basic in **Spanish**

## 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%)