# 楊雅涵
# YANG YA-HAN

## Contact


+886 938308290

gn00088504@gmail.com

New Taipei City, Taiwan


## About Me

I am a second-year master's student in the Department of Computer Science and Information Engineering (CSIE) at Chang Gung University. My research focuses on the clinical analysis of dMRI, and combining medical image processing and computational methods to study the damaged structures inside the brain.

## Skills

- Languages: C++, Python, MATLAB, Java, JavaScript
- Frameworks: PyTorch, Flask, React, Node.js
- Tools: Git, Docker, Linux
- Databases: MySQL
- Others: MRtrix3

## Education

### Master of Computer Science and Information Engineering
*Chang Gung University, Taiwan* 2024 - Present

Developing a hierarchical Random Forest model to predict stroke prognosis (mRS score). Utilized Pix2Pix GAN for b-value image synthesis and integrated NODDI/FBA metrics to enhance prediction.

### Bachelor of Computer Science and Information Engineering
*Chang Gung University, Taiwan* 2020 - 2024

Established a strong foundation in computer science and AI. Focused on machine learning applications and data analysis through various academic projects, preparing for advanced research in medical imaging and deep learning.

## Experience

### Internship
*National Institute for Phyological Science, Japan* 2026.04 - 2026.06

### Teaching Assistant
*Data Structures and Algorithms* 2023.09 - 2025.12

Assisted in course instruction and Conducted assignment demonstrations and provided technical guidance to students, ensuring their thorough comprehension of code logic and algorithmic behaviors.

### Project Research Assistant
*Dept. of Occupational Therapy* 2024.01 - 2024.12

Supported research initiatives through data management and technical assistance. Developed a LINE bot for real-time elderly health monitoring and implemented an automated image-recognition system to identify home fall risk factors and generate assessment reports.

### Workshop Assistant
*International MRtrix Workshop* 2024.07.01 - 2024.07.04

Managed participant registration and event logistics while providing on-site technical support for neuroimaging software operations and troubleshooting.

## Projects

Ongoing **ML-Powered Prognosis Prediction in Acute Hyperglycemic Ischemic Stroke Using Diffusion MRI**

Developing a hierarchical Random Forest model to predict 6-month mRS scores for ischemic stroke patients (mRS 0, 1, 2, 3-5). Leveraged Pix2Pix GAN to synthesize high b-value (b=2000) images and integrated NODDI/FBA metrics, achieving a model accuracy of 86.4% and an AUC-ROC of 0.871.

2023 **NHRI Online MRI Analysis Platform**

Built a web-based analysis platform using Python Flask and HTML, allowing researchers to upload neuroimaging files for automated processing. The system includes real-time progress tracking and automated storage management to ensure server efficiency.

2022 | 2024 **360° 5G AI Smart Remote Home Visit System**

Developed a senior project utilizing a 360° camera and self-trained YOLOv5 models to detect and label environmental hazards. The system transmits live footage to VR systems used by occupational therapists, significantly reducing the required duration for clinical home visits.