

H.M. HWANG

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EDUCATION

University of Leeds BS Computer Science <i>Focus: Operating System, Computer Graphic, Software Engineering</i>	Leeds, Yorkshire Sep 2021 – Aug 2024
Foundation Year Applied Mathematics, Pure Mathematics, Physics	Leeds, Yorkshire Sep 2020 – Jun 2021
University of GWN (Drop-out) BS Metal engineering	Kang won, Korea Mar 2016~2019
Yong Moon High School Mathematics, Sciences	Seoul, Korea Mar 2014 – Feb 2016

SKILLS

Technologies:	C/C++, Python, ROS2, Arduino, Qt, MySQL
Core:	Version Control, Agile Scrum, Confluence&Jira
API:	OpenGL (modern), OpenCV, Mediapipe,

PROJECTS

Nursing AI Assistant <i>Python, ROS2, Pytorch, LLM API</i>	github.com/1-moon/ros-careGiver
Developed core functionalities for a mobile nursing AI assistant robot in a sanatorium, leading a ROS2 team project that integrated GPT-API for conversational AI, fine-tuned Yolo for emergency detection, and applied PyTorch-based depth estimation to assist with patient mobility.	
Fitness AI Agent <i>Python, Mediapipe, Qt</i>	github.com/1-moon/Fitness-Trainer
Led a deep learning team project to develop a smart fitness app, utilizing an LSTM model trained on MediaPipe-extracted pose keypoints for real-time exercise recognition and feedback.	
Unmanned Store Automation System <i>C/C++, Arduino, PyQt</i>	github.com/1-moon/iot-unmannedStore
Developed an IoT-based robotic pickup system enabling automated order fulfillment in unmanned retail stores through WiFi communication between robots, display shelves, and administrators.	
Ray-tracing Bezier curve grid <i>C/C++</i>	github.com/1moon/RT_curve
Created a mesh in the space where ray hits for my dissertation, adapting Bezier curve principle and a book on Ray tracer by P. Shirley.	

Spaceship lift-off simulation *C/C++, OpenGL*github.com/1moon/spaceSim

Collaborated with two classmates as a group project to implement the simulation that a spaceship lifts off from launch platform, featuring basic 3D rendering, track cameras and so on.

Video editing Application *C++ in Qt*github.com/1moon/videoEdit

Collaborated with a team of four students to develop a video editor sized in smartphone in User Interface Module, using Qt software, Scrum and Gitlab.

EXPERIENCE**Republic of Korea NAVY**Korea Navy 2nd Fleet*Rader Operator*

Jan 2017 – Feb 2019

- Collaborated with a team of professional Rader operators to detect North Korean battleship, allied forces and shipping ships.
- Joined in virtual simulation training with U.S NAVY using KNTDS (Korean Naval Tactical Data System), National Confidential Rader System.

Sungkyunkwan University

Natural Sciences campus

Computer graphic lab intern

Sep 2024 – Nov 2024

- Learned fundamental concepts in computer graphics with OpenGL & GLSL.
- Authored comprehensive reports on acquired knowledge and skills (e.g., Mipmaps, compute buffers, and more).

Addinedu AI/Robot Bootcamp

Gasam Digital complex

Contributor

Dec 2024 – May 2025

- Participated in four team projects (EDA, IoT, ML/DL, ROS) at the bootcamp to learn about AI in autonomous mobile robots.
- Gained hands-on experience in integrating hardware and software, enhancing project capabilities and technological understanding.