H.M. HWANG

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github.com/1-moon

EDUCATION

**University of Leeds** Leeds, Yorkshire

BS Computer Science Sep 2021 – Aug 2024

*Focus: Operating System, Computer Graphic, Software Engineering*

**Foundation Year** Leeds, Yorkshire

Applied Mathematics, Pure Mathematics, Physics Sep 2020 – Jun 2021

**University of GWNU (Drop-out)** Kang won, Korea

BS Metal engineering Mar 2016~2019

**Yong Moon High School** Seoul, Korea

Mathematics, Sciences 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** *Python, ROS2, Pytorch, LLM API* 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** *Python, Mediapipe, Qt* 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** *C/C++, Arduino, PyQt* 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** *C/C++* 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** Gasan 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.