

Kim Ye Ryeong

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Education

- **Pusan National University** Mar 2017 - Current
B.S in Computer Science and Engineering

Work

- **PNU CAMEL lab.** August 2021 - Current
Path Planning, Mapping Undergraduate Student
 - Researched a robot path planning and mapping.
- **Daydream lab.** June 2021 - August 2021
Web Full Stack Developer Intern
 - Developed a process management service on the web.
- **UXIS** March 2021 - June 2021
Deep Learning RnD Intern
 - Developed an algorithm for calculating concentration through eye tracking.
 - Using Python, OpenCV and Google Mediapipe

Project

- **Hexapod that Grow Plants** October 2021 - December 2021
 - Developed a hexapod that checks the temperature, humidity, and illuminance of plants with an app and allows them to walk.
 - Dynamixel motors and OpenCR were used for Hexapod and designed the hardware and assembled the hardware of the hexapod with a 3D printer.
 - Communicated with sensors using STM32F107.
 - Tech Stack: Embedded Systems, Dynamixel SDK, OpenCR, STM32F107, C
- **Doctor Who Christmas Tree** December 2021
 - Developed a moving Christmas tree by parody of "The Christmas Invention" in Doctor Who Season 2.
 - Tech Stack: Embedded Systems, µC/OS-III, STM32F429ZI, C
- **CafeMate: Local coffee shops integrated gifticon service** September 2021 - October 2021
 - Developed a local coffee shops integrated gifticon service app so that non-franchise cafes can generate profits through gifticon services.
 - Won the 3rd Prize in PNU AI Opensource SW Hackathon.
 - Tech Stack: Flutter, Docker, NodeJS, PostgreSQL
- **Control Flow Integrity Enforcement for Embedded Systems** May 2021 - October 2021
 - Developed a binary instrumentation framework enforcing lightweight control flow integrity (CFI) for embedded systems using ARM TrustZone-M
 - Tech Stack: Embedded Systems, STM32 Nucleo L552ZE, Binary Rewriting, C, Python

- **Korean Scheme Interpreter**  Apr 2021 - May 2021
 - For more accessible coding education, created a Korean Scheme.
 - Developed Korean Scheme Interpreter and VSCode Extension to use it.
 - Tech Stack: Compiler, Interpreter, Python, YoCode.
- **Service to crack down Sexually Exploitative Materials (SEM)**  Aug 2020 - Dec 2020
 - Developed web services and programs to support victims of sex crimes and help police investigate as a Best of the Best Digital Forensic project.
 - Designed and proceeded the project as a **Project Manager** and selected as an excellent project.
 - Tech Stack: Python, NodeJS, MySQL.
- **Mole Game on FPGA** Dec 2019
 - Developed Mole Game that a input key that matches the LED mole within the time limit to increase score.
 - Tech Stack: Verilog, flowrian(a digital logic design tool).
- **Smart Medicine Case** Jun 2019
 - Developed SMC that can set an alarm for the time to take medicine, and warning alarm at front door when don't take the SMC.
 - Won the 2nd Prize in PNU Arduino Project.
 - Tech Stack: Arduino.

Extracurricular activities

- **Completed Coursera 'Neural Networks and Deep Learning' course** Apr 2020
- **Best of the Best 9th** July 2020 - Feb 2021
 - Funded by KITRI(Korea Infomation Technology Resarch Institute).
 - Completed Digital Forensic track.

Awards and Skills

- **Awards**
 - 3th Prize, PNU AI Opensource SW Hackathon 2021
 - 2nd Prize, PNU Arduino Project 2019
- **Papers**
 - "Suggestion of Open Chat Room Investigation using Logging Bot", KDFS 2020
- **Skills**
 - Programming Language: **Python**, C/C++, Java
 - OS : **Linux**, **Windows**
 - Web/App : NodeJS, MySQL, React, Flutter
 - Modeling : Fusion360, AutoCAD
 - Good at Python programming and Web Server side programming.
 - Have experience in using EnCase, FTK and various forensic tools.