

Bat Nemekhold

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Education

Kookmin University

Mar 2018 – Feb 2022

BS in Mechanical Engineering

- GPA: 4.04/4.50
- **Relevant Coursework:** Artificial Intelligence, Automatic Control, Deep Learning, Linear Algebra, Numerical Analysis, Modern Control Engineering, Probability and Statistics

Technologies

Programming Languages: Python, Rust, C/C++, Bash, SQL, JavaScript, HTML, CSS, Latex**Technologies:** Linux, Git, Docker, Numpy, Pytorch, PyQt, CMake, Vim, FastAPI, React, MySQL, PostgreSQL**Robotics:** ROS/ROS2, Mujoco, Gymnasium, Robosuite, MoveIt, Nav2**Languages:** Mongolian (Native), English (Fluent), Korean (Fluent)

Experience

Robotics Software Engineer, AI Motion Team

Seongnam-si, South Korea

Plaif

Jan 2023 – present

- Architected and integrated the Pick & Place Solution using ROS2, TCP/IP, and IPC for seamless robotic operations
- Developed and maintained cost-saving robot drivers and hardware interfaces for Rainbow Robotics and Robostar
- Created custom plug-ins for robot teaching pendants, including camera calibration and vision modules, and built a React-based GUI for real-time system monitoring and control
- Streamlined development and deployment processes through docker containerization and docker compose

Robotics Engineer Intern, Dev Team

Seoul, South Korea

CWSFA

Mar 2022 – Nov 2022

- Enhanced mobile robots' autonomous navigation using SLAM with Nav2 and Cartographer, leading to more accurate self-driving capabilities
- Developed intuitive GUIs with Qt for seamless control and scenario management for multiple robotics systems
- Designed circuit diagrams and wrote firmware in C for the FADUINO-32TA, integrating it with ROS
- Optimized computer vision algorithms for detecting smart farm road lanes, reducing CPU usage by 35%
- Designed and implemented a deep learning network for smart farm road lane detection, achieving 95% accuracy in real-time scenarios

Undergraduate Researcher

CA, USA

University of California, Irvine

Dec 2019 – Feb 2020

- Utilized Gazebo to simulate both aerial and ground robots, employing SLAM techniques to navigate through maps generated with a lidar sensor, contributing to enhanced robotic autonomy and mapping capabilities.

Selected Projects

Speech-based Basketball Live Boxscore App

June 2024 – Aug 2024

Personal

- Developed the server-side of a real-time speech-based basketball live boxscore web application that transcribes and processes live commentary to update game statistics dynamically
- Tools Used: FastAPI, PostgreSQL, GPT3.5, Whisper, Azure

Energy Trend Monitoring System

Jan 2022 – Feb 2022

Daewoong Pharmaceutical

- Identified the important factors in charge of energy trends at Daewoong Pharmaceutical factories using EDA
- Tools Used: Python, Pytorch, Pandas, Numpy

Capstone Design Project: Autonomous Scooter

Mar 2021 – June 2021

Kookmin University

- Led the development of motor control software for Arduino, integrated 3D hardware models with URDF, and implemented autonomous driving using Intel RealSense D435 and ROS on Raspberry Pi 4
- Tools Used: Python, C, ROS, RPi4, Arduino