Bat Nemekhbold

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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*

○ Building a RL-based software robotics suite in real-world and simulated settings, based on MuJoCo and ROS2
○ Architected and integrated the Pick & Place Solution using IPC and TCP/IP for seamless robotic operations
○ Developed cost-saving custom robot drivers and hardware interfaces for RB-series from Rainbow Robotics
○ Created custom plug-ins/apps for robot teaching pendants, including camera calibration and vision modules
○ 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' navigation using SLAM with Nav2, 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

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, Azure, OpenAI APIs (GPT3.5 & Whisper)

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