

Profile

Engineering professional with dual degrees in Business Administration and Engineering, and an Associate Degree in Computer and Software Engineering. Experienced in mechatronics, autonomous systems, and IoT applications with strong programming skills in C, C++, and Python. Proven ability to lead projects and integrate hardware and software components using ROS/ROS2 and OpenCV.

Education

Bachelor of Business Administration and Bachelor of Science in Engineering

INHA University

Incheon, South Korea

March 2020 ~ August 2024

Associate Degree in Computer and Software engineering

Uch-tepa college

Jizzakh, Uzbekistan

September 2016~ July 2019

Projects

Integrated Capstone Design Project of IBT & ISE

INHA University, March 2023 ~ June 2023

Being a team leader to build a new product prototype using Turtle Bot 3 and control the system using the real-time operating system ROS. Developed, deployed and tested microcontroller performance, communication protocols, data acquisition processes, actuators, sensory signal processing using core theories of the Industrial Internet of Things. Managed team as a software engineer in the team project to implement and create the operating system environment using ROS 1 and C programming language. Succeeded in strengthening following competencies: Parametric Modeling with Autodesk Fusion 360, running systems with Arm Cortex-M Microcontrollers in Assembly Language and C, Working on Linux, project management, client interaction, technical leadership, VMware environment and firmware

Vertically Integrated Project 2

INHA University, September 2022 ~ December 2022

Second phase of the VIP series. Employed deep learning models on the chip and leveraged the camera sensor capabilities on smart RC car. Created programs to perform tasks such as object detection and classification. Responsibilities include to investigate, debug, triage hardware and system level issues. Succeeded in strengthening following competencies: multi-level sensor perception, 3D modeling, object detection and classification

Vertically Integrated Project 1

INHA University, March 2022 ~ June 2022

Worked on an autonomous driving vehicle by integrating various sensor technologies, signal processing, deep learning-based artificial intelligence. Implemented traffic light and lane detection program on Raspberry Pi smart RC car using C programming language. Succeeded in strengthening following competencies: C/C++ programming language, sensor technologies

Relevant Experience

Advanced driver-assistance systems (ADAS) undergraduate research program

INHA University, December 2023 ~ March 2024

Improved lane centering program using OpenCV library on Python. Worked on “False positives: False Lane detection” part and created new exception handling program and successfully tested the program on IONIQ 5 vehicle in city environment. Succeeded in strengthening following competencies: Python, OpenCV, Image processing, Machine learning, GitHub

Smart Mobility Engineering Lab

INHA University, September 2023 ~ December 2023

Worked on TurtleBot3 to expertise autonomous robot programming and machine learning skills. During the lab project a TurtleBot3 was built from scratch using ROS/ROS2. Created a new program using C++ programming language to make the robot suitable for a warehouse operation environment. Using C++, the new program was successfully deployed to sort and place commodities according to their received date in a warehouse. Succeeded in strengthening following competencies: ROS/ROS2 python/C++ client library, ROS: RVIZ, RQT, Gazebo simulator

IoT Application System lab-based course

INHA University, September 2022 ~ December 2022

Worked on IoT application system project to modify and implement OpenCV library algorithms for Raspberry Pi + Camera. Main responsibility was to check and test connectivity of all components and networking reliability. Using python based OpenCV library and Transmission Control Protocol (TCP) maintenance of connectivity and reliability of the network were completely established. Succeeded in strengthening following competencies: TCP/IP, IoT cybersecurity, embedded software/hardware IoT application development

Data communications lab-based course

INHA University, March 2022 ~ July 2022

Built simple local area networks (LANs) that integrated IP addressing schemes, foundational network security and perform basic configurations for routers and switches during the laboratory project, worked on the architectures, models, protocols, and networking elements that connect users, devices, applications, and data through the internet and across modern computer networks -including IP addressing and Ethernet fundamentals. Succeeded in strengthening following competencies: configuring switches and end devices in LAN, establishing end-to-end connectivity, Create IPv4 and IPv6 addressing schemes, OSI models, Troubleshoot connectivity in LAN, cybersecurity domains (Network Security, Asset Security, Risk management)

Certificates

TOEIC Listening & Reading certificate

Incheon, Republic of Korea, June 2024

Networking basics course certificate by CISCO

INHA University, February 2024

Introduction to Cybersecurity course certificate by CISCO

INHA University, February 2023

Volunteer certificate

INHA University, December 2022

CCNAv7: Introduction to networks certificate

INHA University, June 2022

Certificate of Education by INHA University Human rights center

INHA University, May 2021

IELTS certificate (Band 7)

Uzbekistan, August 2019

Diploma with Honors in Computer skills for Office environment

Uzbekistan, September 2018

Certificate of Excellence (Awarded for Achieving the Highest Scores in High School)

Uzbekistan, May 2016

Languages: Uzbek (Native), English (Advanced), Russian (Intermediate), Korean (Beginner)