



ChangGeun Gwak

Robotics Software Engineer

Dedicated to building human-centered robotics solutions that empower and enrich lives.

CONTACT

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- . changgwak.github.io
- . github.com/changgwak
- . Seoul, South Korea

SKILLS

- . Programming and Tools:
Python, C++, SQL, ROS2,
Nav2, OpenCV, Pytorch, Git,
Docker

- . Robotics and AI: AMR,
Cobot, Cartesian Robot,
Middleware Integration
(DDS), Path Planning,
Real-Time Systems,
Computer Vision (CNNs),
LLMs, RAG

- . Software and Data:
Asynchronous Processing,
Microservices Architecture,
Design Patterns, System
Optimization, Database
Design, Algorithms

EDUCATION

- . Chung-ang University, Seoul
B.S Mechanical Engineering
GPA: 4.42/4.5
(Summa Cum Laude)

LANGUAGES

- Korean (Native)
- English (Intermediate)

INTERESTS

- . LLM based Robotics,
Multimodal LLM, RL, et al.

WORK EXPERIENCE

Control System Engineer | Samsung Electronics, South Korea
Jan 2024 - present

- . Material Handling Automation, AI Center
- . Implemented CNN-based image classification module (Computer Vision)
- . Implemented a LLM based Chatbot Web service
- . Developed a system setup automation module


Robotics Software Engineer | Samsung Electronics, South Korea
Jan 2022 - Dec 2023

- . Fab Automation, CTO Mechatronics Research
- . Development of Mobile Manipulator Robot Control
- . Designed a Microservice Architecture (MSA) and robot middleware-based software architecture.
- . Finite State Machine (FSM)-based control software for a Cartesian robot
- . Global path planning with A*/Dijkstra algorithms and local control with Extended Regulated Pure Pursuit.
- . Behavior Tree-based navigation software
- . Designed and implemented an event-driven task manager
- . Co-authored a technical patent: IN-202208-002-1-KR0

System Engineer | Samsung Electronics, South Korea
Sep 2020 - Dec 2021

- . System Automation, Data&IT Center
- . Contributed to the development of Dataflow Intelligence Engine
- . Implemented automated data validation module, resulting in a 91% reduction in manual efforts and increased data integrity

Robotics Engineer | LG Electronics, South Korea
Jan 2020 - Aug 2020

- . Manipulator Development, Robot Business Center
- . Contributed to the development Cobot Control Software
- . CES 2020:  LG at CES 2020 - LG ThinQ CLOi's Table

OTHERS

- . Developed and published a Python package on PyPI: [python-automation](https://pypi.org/project/python-automation/)
- . Guest lecturer (Online & On-Campus) : Introduction to Robotics in R&D Engineering in Seoul National University of Science and Technology, HanKyong National University, Sungkyunkwan University, Hanyang University, and six other institutions.