Beomjun Chung

wjdqjawns | dgist22_jbj@dgist.ac.kr | +82 10-2649-3283

Summary

Mechanical Engineering undergraduate with strong experience in robotics, satellite systems, and sensing. Hands-on background in robot modeling and control, CubeSat thermal analysis, and ERT-based robotic sensing. Experienced in simulation, PCB design, embedded programming, and data-driven modeling for robotic systems.

Work Experience

GBSAT – Thermal Analysis Engineer Apr 2022 – Present

- Performed orbital thermal analysis for CubeSat missions using NX Space System Thermal Solver
- Conducted preliminary thermal analysis for vacuum test environments
- Studied RTOS-based onboard software architecture and participated in system-level design reviews (TRR)

Interactive Robot Lab (IR Lab) – Undergraduate Researcher Jun 2024 – Jun 2025

- Developed ERT-based robotic skin sensing modules and PCB designs
- Implemented FDNN-based learning models for ERT signal interpretation
- Integrated sensing modules with ROS-based robotic systems

VFSPACE – Hardware Developer & Project Manager Dec 2022 – Nov 2023

- Designed re-entry system components including landing gear and parachute mechanisms
- Led development of a laser-based metal wire 3D printer as project manager
- Conducted mechanical design, PCB design, and firmware development based on open-source platforms

Projects

Two Wheel-Legged Robot Project (UGRP) – Project Manager Mar 2025 – Jan 2026

- Led design and modeling of a two wheel-legged robot system
- Developed a MATLAB-based robot simulation framework for dynamic verification
- Integrated control-oriented modeling for future hardware implementation

IMU Noise Characterization using Allan Variance 2025

- Analyzed IMU sensor noise characteristics using Allan variance
- Identified bias instability and random walk components
- Evaluated implications for state estimation and control accuracy

Robot Control Simulation using MuJoCo 2024

- Simulated robotic manipulator dynamics in MuJoCo
- Analyzed control performance under varying dynamic conditions
- Documented modeling and control results in technical reports

Education

2022 – Present B.S. in Mechanical Engineering, **DGIST (Daegu Gyeongbuk Institute of Science and Technology)**

Publications

Lee, J., Lee, S., Chung, B., Yang, J., Jang, J., & Yoon, H. (2024-11-13). CubeSat On-Board Computer Design Based On Commercial Development Board. 한국항공우주학회 학술발표회 초록집, 강원.

Presentations

- Poster Presentation: *Development of ROS-Compatible Compact PCB for ERT* (**Beomjun Chung**, Kyungseo Park), KROC Conference, 2025

Skills

CAD / CAE	SolidWorks, NX, Fusion 360, ANSYS, NX Thermal Solver
ECAD	KiCad, Altium
Programming	C/C++, Python, MATLAB, LabVIEW
Robotics	Robot modeling, dynamics, control, sensor integration
Tools	Git / GitHub, LaTeX