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EDUCATION

Doctor of Philosophy in Smart Vehicle System Engineering Expected Feb 2028
Chosun University, Gwangju, Republic of Korea
Thesis: Control Co-Design for a Reusable Launch-Vehicle-Based UAV (TBD)

Master of Science in Smart Vehicle System Engineering Feb 2023
Chosun University, Gwangju, Republic of Korea
Thesis: A HIL test for verification of attitude control system of rocket-based UAV

Bachelor of Science in Aerospace Engineering Aug 2021
Chosun University, Gwangju, Republic of Korea

RESEARCH INTEREST

- Control Co-Design and MDO: Plant–controller co-optimization within a multidisciplinary design optimization (MDO) framework for Uncrewed Aerial Vehicles (UAVs) and Reusable Launch Vehicles (RLVs), integrating hardware and control design to enhance cost efficiency, performance, and safety

- Guidance, Navigation, and Control (GNC): Trajectory optimization of UAVs and RLVs under operational constraints for precise and fuel-efficient flight

- Cooperative Control: Precision landing of UAVs and RLVs on Uncrewed Surface Vehicles (USVs), enabling coordinated touchdown and capture on moving maritime platforms

PROFESSIONAL EXPERIENCE

Unmanned System (Startup Company), *CTO* Oct 2021 – Current
- Co-developed a rocket-based foldable UAV for environmental monitoring (50% shareholder)

Maker-furniture (Startup Company), *CEO* Nov 2016 – Dec 2017
- Developed a 3D printer integrated with an online platform for 3D model organization, sharing, and design

PUBLICATON

- S. Kim, A. Tullu, and S. Jung*, Enhancing Sensor Accuracy in Mobile Multi-sensor Systems for Atmospheric Monitoring Using Disturbance Observer and Sensor Estimators, Frontiers in Marine Science, vol. 12, 1671083, 2025 (ISSN 2296-7745) (20251003 in production, IF: 3.0, Q1, 88.7%).

- S. Kim, T. Molla, A. Zegeye, and S. Jung*, Energy-Efficient Control System for Small-Scale Rocket Recovery, IEEE Access, vol. 13, pp. 104521–104537, 2025 (EISSN 2169-3536) (20250613, IF: 3.4, Q2, 65.4%).

- S. Kim, A. Tullu, and S. Jung*, Linearized State-Space Model-Based Attitude Control for Rocket with Four Controllable Fins—Part 1-1: Basic Modeling and Identification, IEEE Access, vol. 11, pp. 146014–146029, 2023 (EISSN 2169-3536) (30112023, IF: 3.4, Q2, 65.4%).

- S. Kim, O. A. Philip, A. Tullu, and S. Jung*, Development and Verification of a ROS-Based Multi-DOF Flight Test System for Unmanned Aerial Vehicles, IEEE Access, vol. 11, pp. 37068–37081, 2023 (EISSN 2169-3536) (14042023, IF: 3.4, Q2, 65.4%)

- S. Kim, S. Jung*, Fuel Efficiency Analysis of the Jet Engine and Solid-Propellant-Based Small Reusable Sub-Orbital Launch Vehicle Candidates, IAF Space Transportation Solutions and Innovations Symposium (IAC 2024), Milan, Italy, 2024 (ISBN 9798331312244) (20241014).