Chosun Univ., Aerospace Eng. Bldg. #4103
Chosundae 2 gil 101, Dong-gu
Gwangju, Rep. of Korea, 61452

Eojin Kim

www.uaslaboratory.com

Mobile: +82-10-5287-4048
E-mail: qaz8569@chosun.kr

EDUCATION

Doctor of Philosophy in Aerospace Engineering Expected Aug 2029
Chosun University, Gwangju, Republic of Korea
Advisor: Assoc. Prof. Sunghun Jung, Department of Aerospace Engineering, Chosun University
Thesis: Battery-State-Aware Emergency Landing Decision Support for Urban Air Mobility

Master of Science in Smart Vehicle System Engineering Aug 2025
Chosun University, Gwangju, Republic of Korea GPA: 4.25 / 4.5
Advisor: Assoc. Prof. Sunghun Jung, Department of Aerospace Engineering, Chosun University
Thesis: Development and Verification of the Four-layered SOC and SOH Estimation Algorithms

Bachelor of Science in Electronics Engineering Feb 2023
Chosun University, Gwangju, Republic of Korea GPA: 3.9 / 4.5

RESEARCH INTEREST

- Battery SOC/SOH estimation: Developing and comparing methods for estimating battery states (SOC and SOH) using charge-discharge cycling data
- Emergency decision support for UAM: Battery-state-aware reachability boundary updating and maintenance of an emergency landing (vertiport) candidate list

PROFESSIONAL EXPERIENCE

TMC Co., Ltd., Engineer May 2023 – Aug 2023

- Researched solid-state battery cell-to-module and module-to-pack packaging concepts, including module configuration and pack-level architecture design

PUBLICATON (Journal, SCIE)

- W. Zegeye, S. K. Jeong, H. Y. Park, G. Teklay, **E. Kim**, G. Teklay, S. Kim, A. Tullu, and S. Jung*, Battery-Integrated AUV SOC Analysis Using Model-Based Nonlinear PID Controller with Disturbance Observer, IEEE Access, vol. 13, pp.190317-190332, 2025 (ISSN 2169-3536) (20251030, IF: 3.4, Q2, 65.4%)
- **E. Kim**, S. Kim, and S. Jung*, Battery SOC and SOH Estimation Based on Sage-Husa Extended Kalman Filter and Feedforward Neural Network, IEEE Access, vol. 13, pp.174044-174056, 2025 (ISSN 2169-3536) (20251006, IF: 3.4, Q2, 65.4%)
- **E. Kim** and S. Jung*, Battery State of Health Estimation Methods: Implementation and Comparison of 11 Algorithms, IEEE Access, vol. 13, pp. 55599-55615, 2025 (ISSN 2169-3536) (20250328, IF: 3.4, Q2, 65.4%)

PUBLICATIONS (Journal, Non-KCI)

- **E. Kim** and S. Jung*, Comparative Analysis of Seven Algorithms for Enhanced UAV Battery Health Estimation Accuracy, Space Note, vol.1, no.1, pp.14-23, Jun. 2024.

PUBLICATIONS (Conference)

- **E. Kim** and S. Jung*, Development and Verification of the Four-layered SOC and SOH Estimation Algorithms, Paper Presented at the 2025 Society for Aerospace System Engineering (SASE) Spring Conference, Yeosu, South Korea, May. 2025.
- G. Teklay, **E. Kim**, and S. Jung*, A Study on Hydrodynamic Model and Anomaly Detection of Torpedo-shaped Autonomous Underwater Vehicle, Paper Presented at the 2025 Korean Society of Manufacturing Process Engineers (KSMPE) Spring Conference, Yeosu, South Korea, May. 2025.
- **E. Kim** and S. Jung*, Comparison and Validation of Battery State of Health (SOH) Estimation Algorithm for UAV to Improve Flight Time Estimation Accuracy, Paper Presented at the 2024 Society for Aerospace System Engineering (SASE) Spring Conference, Gyeongju, South Korea, May. 2024.

PUBLICATIONS (Non-Conference)

- **E. Kim** and S. Jung*, A Comparative Analysis of 9 Algorithms for Improved Accuracy in Estimating the State of Health of UAV Batteries, Presented at the 2024 Space Talk, Gwangju, South Korea, June. 2024.

PATENTS

- S. Jung, **E. Kim** and H. Myung, Battery SOC Estimation System Based on Sage-Husa Extended Kalman Filter and Feedforward Neural Network (Under Review)
- S. Jung and **E. Kim**, System for Predicting FNN Battery State of Health Based Extended Kalman Filter (Under Review)
- S. Jung and **E. Kim**, Apparatus for Diagnoing Degradation Based on Second Trend Analysis of Closed-Circuit Voltage and Open-Circuit Voltage (Under Review)

AWARDS

- The Society for Aerospace System Engineering (Spring Conference), Best Paper Award, Jinhan Kim (President), Jun 2025