

# SU-HO YU

+82 10 - 5132 - 1037 | yoosuh97@gmail.com | www.linkedin.com/in/suho-yu | www.youtube.com/@jenk5109  
Siheung-si, Republic of Korea

## CORE COMPETENCIES

### BATTERY SYSTEMS DEVELOPMENT AND OPTIMIZATION

- Lead the development of advanced battery systems for aviation, directing a team of four researchers on national projects, resulting in the successful creation and implementation of three major battery systems, contributing to a 30% increase in company sales in 2022.

### PROCESS IMPROVEMENT AND EFFICIENCY

- Implemented comprehensive thermal analyses and process improvements for battery systems that met KS specifications and power requirements, resulting in enhanced operational efficiency and reduced production costs by 10%.

### LEADERSHIP AND PROJECT MANAGEMENT

- Managed UAM R&D projects, overseeing structural analysis, system design, and flight testing. Achieved key milestones, including special seaworthiness certification and the first flight of Korea's pure electric propulsion aircraft, boosting project visibility and securing three high-profile contracts.

## PROFESSIONAL EXPERIENCE

### VSPACE CO., LTD

*Director of Technology, Battery Systems & UAM Development*

Incheon, Korea  
Nov 2021 - Present

- Lead the development of advanced battery systems for aviation, directing a team of four researchers on national projects, resulting in the successful creation and implementation of three major battery systems.
- Managed UAM R&D projects, overseeing structural analysis, system design, and flight testing. Achieved key milestones, including special seaworthiness certification and the first flight of Korea's pure electric propulsion aircraft, which boosted project visibility and funding.
- Conducted comprehensive thermal analyses and developed battery systems that met KS specifications and power requirements, contributing to a 30% increase in company sales in 2022.
- Published three research papers and secured two patents related to battery technologies, enhancing the company's intellectual property portfolio.
- Participated in five major flight demonstration events, showcasing innovative battery technologies and securing three high-profile contracts.

### CEAS CO., LTD

*Design Engineer, Cutting Tools*

Ansan, Korea  
Jul 2018 - Jan 2021

- Designed and developed specialized cutting tools for automotive production lines, increasing tool efficiency by 20% and enhancing client satisfaction.
- Managed tool design projects for Hyundai Motor Company and other clients, utilizing advanced CAD software such as SolidWorks and MasterCAM to streamline design processes and reduce design time by 15%.
- Successfully increased production rates by 10% and reduced defect rates by 25%, resulting in annual cost savings of approximately \$100,000.
- Secured a patent for a vibration-damping cutting tool, positioning the company as an innovator in the cutting tools market.

### ROBO CO., LTD

*Production Manager & CAM Programmer*

Seoul, Korea  
Mar 2017 - Jan 2021

- Oversaw production control and quality assurance for automotive parts, ensuring compliance with industry standards and reducing defect rates by 7%.
- Developed and optimized CAM programs, reducing cycle times by 10% and increasing production efficiency.
- Led mass production initiatives, achieving a 5% reduction in material costs and increasing monthly sales by approximately \$8,000.
- Implemented process improvements that enhanced production efficiency and reduced costs, contributing to the overall profitability of the company.

### SEC CO., LTD

*Manufacturing Technician*

Suwon, Korea  
Jan 2016 - Feb 2017

- Programmed and operated CAM and MCT systems for semiconductor inspection equipment production, ensuring precision and reliability in manufacturing processes.
- Managed production schedules and inventory, maintaining high standards of quality control and reducing lead times by 15%.

- Implemented process improvements that enhanced production efficiency by 10% and reduced costs, contributing to a 5% increase in overall productivity.

EDUCATION

**INHA UNIVERSITY**  
Bachelor of Science in Mechatronics Engineering

Incheon, Korea  
Mar 2018 - Aug 2023

- Focused on advanced battery systems, automation, and UAM technologies.
- Conducted significant research in high-power battery systems and electric propulsion, resulting in multiple published papers and patents.

KEY PROJECTS

- Multicopter Drone System for Transportation | LIG NEX1
- Developed high-power battery systems for vertical takeoff and hybrid systems combining battery and generator power.
- Hydrogen Fuel Cell-Based Cargo Drone Technology | LIG NEX1
- Designed battery systems for high-power requirements and fuel cell integration for extended flight capabilities.
- Electric Propulsion Revision and Development Project | Korea Aerospace Research Institute
- Established data for airworthiness certification and demonstrated flight viability of electric propulsion aircraft.
- Development of a Battery Pack for Refrigeration Compressor in 5-Ton Class Refrigerated Trucks | GS Global

ACHIEVEMENTS AND CONTRIBUTIONS

**National R&D Project (Project Leader)**

- Development of 250 wh/kg High Power/Density Battery Packaging Tech | MOTIE
- Development of High Efficiency, Low Emission, Multi-Channel Electric Power Module for Commercial Features | MOTIE
- Development of IOT Based Intelligent Battery System; IOT Module | MSS

Apr. 2020 – Dec. 2023

Apr. 2020 – Dec. 2023

Nov. 2021 – Dec. 2023

**National R&D Project**

- Development Project for Core Technologies of the Korean Urban Air Mobility (K-UAM) Safety Operation System | MOLIT
- Development and Demonstration of an Intelligent Avionics Software Platform for Detecting and Responding to Abnormal Situations in Urban Air Mobility | MOTIE

May. 2024 – Present

May. 2024 – Present

PUBLICATIONS

- Integrated System Design and Flight Demonstration for Ensuring Flight Continuity in an X8 Electric Propulsion Aircraft under Single Propeller Failure | Journal of Aerospace System Engineering | April 2025
- A Methodology for Specifying Electric Propulsion Battery Requirements Based on K-UAM Operational Scenarios | Journal of Aerospace System Engineering | April 2025
- Development of Manned Electric Propulsion Lightweight Aircraft Modification | Journal of Aerospace System Engineering | June 2023
- Development of 230 wh/kg High-Power, High-Density Battery System | Journal of Aerospace System Engineering | May 2023
- Effect of Internal Resistance Deviation on Thermal Performance | Korean Society for Automobile Safety | May 2023
- Thermal Analysis of the high C-rate Battery Module in an Urban Air Mobility| Korea Automotive Engineers Association | November 2022
- Development of a Planar Measurement Device for Quality Assurance | November 2017
- Development of a Robotic System for Production Line Automation | November 2017
- Development of a Bolt Quantity Detection System for Improving Productivity in Assembly Lines | May 2017

PATENTS

- Urban Air Mobility, Frame of Urban Air Mobility | 15366-000102-US | December 2024
- High-Power Battery Package for eVTOL and Its Management Methods| 10-2024-0200697 | December 2024
- Air-Cooled High-Density Battery Pack| 10-2024-017151 | December 2024
- Aircraft Battery Management for Takeoff and Landing | 10-2024-004711 | January 2024
- Battery Management According to Flight Plan | 10-2024-0047710 | January 2024
- AIR-Cooled High Density battery pack | 10-2024-0047710 | December 2024
- MOVABLE CHARGER | 10-2023-0163497 | November 2023
- Fire Protection Pad and Battery Cell Array using the Same | 10-2023-0054985 | April 2023
- Two-Wheeled Vchicle Vibration Dampers | KP 21047 | May 2021

AWARDS

- Best Award | Aerospace Technology-Based Start-Up Academy, 2022 | October 2022
- Gold Medal | CNC Milling, 2015 Local Skills Competition | April 2015
- Most Valuable Player | Gangwon-Do Local Skills Competition, 2015 | April 2015

PROFESSIONAL ACTIVITIES AND VOLUNTEER EXPERIENCE

- CNC Milling Competition Judge | National Skills Competition | October 2023
- CNC Milling Competition Judge | Local Skills Competition | April 2023
- CNC Milling Skill Player Coaching | Taebaek Machinery Industry High School | December 2023 – February 2024
- Guidance in Precision Measurement and CAM Work | Taebaek Machinery Industry High School | November 2017

## ADDITIONAL

<b>Language</b>	English (OPIc IM3), Japanese (OPIc AL)
<b>Certifications</b>	High Voltage Certification, 3D Printing, Computer Application Processing (Shelf & Milling), Shared Pressure Certification
<b>Engineering Tools</b>	SolidWorks, AutoCAD, CATIA V5, Simcenter STAR-CCM+, STM32 Cube Programmer, Altium designer, ABACUS, Ansys
<b>Production Management</b>	CAM programming, quality control, process improvement
<b>Battery Systems</b>	Design, thermal analysis, assembly, and testing
<b>UAM Development</b>	Structural analysis, system design, flight testing, Architectural design,
<b>Programming Languages</b>	C, C++