

SUHYEON KIM

Ph.D. Student, H. Milton Stewart School of Industrial and Systems Engineering
Georgia Institute of Technology, Atlanta, GA, USA

☎ +1-404-917-3535 ✉ su.kim@gatech.edu [in sukim98](#)

EDUCATION

Georgia Institute of Technology, Atlanta, GA, USA

2025 – Present

Ph.D. Student in Industrial and Systems Engineering

Advisor: Prof. Chuck Zhang

Research interests: advanced composite manufacturing, digital twins, physics-guided NN

UNIST, Ulsan, South Korea

2023 – 2025

M.S. in Mechanical Engineering (Advisor: Prof. Young-Bin Park)

UNIST, Ulsan, South Korea

2017 – 2023

B.S. in Mechanical Engineering, cum laude

RESEARCH EXPERIENCE

Graduate Research Assistant, Georgia Institute of Technology

Aug. 2025 – Present

- **Digital Twin for Composite Manufacturing:** Developing a digital-twin framework for composite manufacturing process optimization using FEM, sensor feedback, and Deep Learning.
- **CHMI-24-06: Adhesive Bonding and Sustainability:** Investigating recycling pathways and life-cycle assessment of expired epoxy prepregs and vitrimer-based composite/adhesive systems for sustainability.
- **IRAD Wound Monitoring:** Fabricating NO sensors using aerosol jet printing and developing the platform toward flexible electronic device fabrication.

Graduate Research Assistant, UNIST

2023 – 2025

- **Dry-spot Prediction during VARTM:** Developed an electrical-monitoring and LSTM-based framework for dry-spot prediction during resin infusion for glass fiber/epoxy composites.
- **Composite Cryogenic Tank Design:** Participated in a project on multi-layer insulation, heat-transfer optimization, and nonlinear buckling analysis for liquid-hydrogen composite tank systems.

Undergraduate Research Intern, UNIST

Aug. 2022 – Feb. 2023

- **CFRP Impact Damage Classification:** Manufactured carbon fiber/epoxy composites via VARTM, conducted impact tests, and applied k-means clustering to classify fracture types under varying impact conditions.

Visiting Academic Colleague, University of New Mexico

Apr. 2022 – Jul. 2022

- **2D SiC PVD:** Participated in a project on physical vapor deposition of 2D SiC on silicon substrates.

PUBLICATIONS

1. **S. Kim**, D. Lee, and Y.-B. Park, "Dry-spot prediction in glass fiber/epoxy composites during resin infusion process based on electromechanical analysis and long short-term memory," *Sensors and Actuators A: Physical*, forthcoming, Aug. 1, 2026.

HONORS & AWARDS

Fellowship & Scholarship

- Georgia Tech First-Year Ph.D. Fellowship, Georgia Institute of Technology 2025
- Graduate Research Assistantship, UNIST 2023 – 2025
- Full-Tuition Scholarship, UNIST 2018 – 2023

Travel & Career Support

- Ph.D. Travel Fund, Georgia Institute of Technology 2025
- Korea–U.S. Internship Scholarship & Outstanding Recipient Recognition, NIIED, Ministry of Education 2022
- Overseas Study Travel Grant, UNIST 2017

SKILLS

Programming: Python, MATLAB

Data Analytics & Modelling: DOE, statistical modeling, ML, LSTM, linear optimization, surrogate modeling

Simulation, CAD & LCA: Moldex3D RTM, ABAQUS, AutoCAD, CATIA, life-cycle assessment (LCA), Brightway/Brightway2, Conda-based Python workflows

Manufacturing: VARTM, FRP fabrication, prepreg layup, autoclave processing, aerosol jet printing, inkjet printing

Experimental Equipment: DSC, UTM/Instron, LCR meter, Keithley electrometer, impact tester

TEACHING EXPERIENCE

Tutor, ISyE 3232 Stochastic Manufacturing and Service Systems Fall 25; Spring 26

- Instructor: Prof. Craig Aaron Tovey.
- Class size: Large undergraduate course.
- Duties: Held office hours and provided tutoring support.

Teaching Assistant, MEN490 Introduction to Optical Engineering Fall 24

- Instructor: Prof. Yoonsoo Rho.
- Class size: 7 students.
- Duties: Held office hours, assisted with course-related documentation.

CONFERENCES

- Oral Presentation, Spring Meeting of the Korean Society for Composite Materials, Jeju, South Korea 2025
- Poster Presentation, Spring Meeting of the Korean Society for Precision Engineering, Jeju, South Korea 2024
- Poster Presentation, Spring Meeting of the Korean Society for Composite Materials, Jeju, South Korea 2024

MILITARY SERVICE

KATUSA, Republic of Korea Army / U.S. Army, 304th ESB 2019 – 2021

Cable Systems Installer; recognized as Honored KATUSA and Brigade KATUSA Board Winner.

REFERENCES

Available upon request.