

Last Update: Aug. 4, 2026

EDUCATION

Georgia Institute of Technology Ph.D. Student in Aerospace Engineering – Advisor: Prof. Koki Ho	Atlanta, GA, USA Aug. 2024 – Present
Korea Advanced Institute of Science and Technology (KAIST) Master of Science in Aerospace Engineering – Thesis: Optimal planetary surface routing considering synergy value system and heterogeneous agents – Advisor: Prof. Jaemyung Ahn	Daejeon, Republic of Korea Aug. 2022 – Aug. 2024
Korea Advanced Institute of Science and Technology (KAIST) Bachelor of Science in Aerospace Engineering Bachelor of Science in Physics (Double Major)	Daejeon, Republic of Korea Mar. 2015 – Feb. 2019

PROFESSIONAL & RESEARCH EXPERIENCE

Georgia Institute of Technology Graduate Research Assistant, Daniel Guggenheim School of Aerospace Engineering	Atlanta, GA, USA Aug. 2024 – Present
Korea Advanced Institute of Science and Technology Graduate Research Assistant, Department of Aerospace Engineering	Daejeon, Republic of Korea Aug. 2022 – Aug. 2024
Agency for Defense Development (ADD) Researcher, Aerospace Technology Research Institute	Daejeon, Republic of Korea Jun. 2019 - May. 2022

PUBLICATIONS

Journal Articles

- [J1] **E. Choi** and J. Ahn, “Optimal Routing for In-Situ Resource Utilization-Based Planetary Surface Explorations,” *Journal of Aerospace Information Systems* (Accepted)
- [J2] **E. Choi** and K. Ho, “Formulation and Analysis for Integrated Spacecraft Routing and Trajectory Design Problem,” *Journal of Spacecraft and Rockets* (Accepted)
- [J3] B. Gwon*, **E. Choi***, J. Lee, and J. Ahn, “Multi-UAV Task Allocation and Real-Time Re-plan Strategy with Refueling,” *International Journal of Aeronautical & Space Sciences*, (Accepted)
*These authors contributed equally.
- [J4] J. Choi, J. Lee, **E. Choi** and J. Ahn, “Sequential Vertiport Location Optimization Considering Uncertain Social Benefit,” *Journal of Aerospace Information Systems*, 2026, pp. 1–16
- [J5] **E. Choi** and K. Ho, “Orbital Depot Location Optimization for Satellite Constellation Servicing with Low-Thrust Transfers,” *Journal of Spacecraft and Rockets*, Vol. 63, No. 1, 2026, pp. 4–13.
- [J6] C. Moon, **E. Choi**, and J. Ahn, “Aerial-Ground Collaborative Routing with Uncertain Exploration Value,” *International Journal of Aeronautical & Space Sciences*, Vol. 26, 2025, pp. 2817–2841.
- [J7] J. Kim, **E. Choi**, J. Ahn, E.S. Suh, J. Kim, and D.G. Lim, “Mathematical Programming-Based Design Structure Matrix Clustering for Modular Architecture Design,” *Journal of Mechanical Design*, Vol. 147, No. 10, 2025, 101401.
- [J8] **E. Choi** and J. Ahn, “Optimal Multi-agent Grouping and Routing with Cooperative Tasks,” *Journal of Aerospace Information Systems*, Vol. 22, No. 3, 2025, pp. 163–176.
- [J9] **E. Choi** and W. Chang, “Multi-Agent Task Allocation with Inter-Agent Distance Constraints,” *Journal of Aerospace Information Systems*, Vol. 21, No. 2, 2024, pp. 168–177.
- [J10] **E. Choi** and J. Ahn, “Optimal Planetary Surface Exploration with Heterogeneous Agents,” *Journal of Spacecraft and Rockets*, Vol. 60, No. 4, 2023, pp. 1343–1354.
- [J11] **E. Choi** and J. Ahn, “Optimal Planetary Surface Routing Considering Exploration Values and Synergies,” *Journal of Aerospace Information Systems*, Vol. 19, No. 6, 2022, pp. 406–420.

Working Papers

- [P1] B. Gwon, **E. Choi**, and J. Ahn, “An Integer Linear Programming-Based Framework for Satellite Coverage Optimization Problem Under Operational Constraints,” *International Journal of Aeronautical & Space Sciences*, (Major Revision)
- [P2] **E. Choi**, J. Lee, and J. Ahn, “Multi-Commodity Lunar Campaign Optimization via Leveraging Hybrid Propulsion Systems and Resonance Orbits,” *Journal of Spacecraft and Rockets*, (Major Revision)
- [P3] **E. Choi**, J. Kim, J. Kim, J. Ahn, “Optimal Design Structure Matrix Clustering with Constraint Selections for Conflict Resolution,” *Journal of Mechanical Design*, (Under Review)
- [P4] J. Kim, **E. Choi**, E.S. Suh, J-H Kim, and J. Ahn, “Optimal Clustering of Design Structure Matrix for Modular Architecture Design Considering Assembly Costs,” (Will be submitted to *IEEE Transactions on Engineering Management*)

Conference Papers

[C1] **E. Choi** and K. Ho, “In-Space Recycling Logistics Optimization for Circular Space Economy,” *2027 AIAA SciTech Forum*, (Submitted).

[C2] T. Noro, K. Ho, **E. Choi**, S. Han, and M. Isaji, “Low-Thrust Trajectory Optimization via Sequential Convex Programming for On-Orbit Servicing in GEO,” The Japan Society for Aeronautical and Space Sciences 57th Annual Meeting, April 2026.

[C3] **E. Choi** and K. Ho, “Optimal Routing and Trajectory Planning for Asteroid Mining with Partial In-Situ Resource Utilization,” *2026 AIAA SciTech Forum*, January 2026.

[C4] **E. Choi** and J. Ahn, “Optimal Routing Problem with Precedence Constraints for Surface Exploration,” *2024 AIAA SciTech Forum*, January 2024.

[C5] J. Choi, J. Lee, **E. Choi** and J. Ahn, “Optimizing UAM Vertiport Location in Jeju Island: Incorporating Noise for Public Utility,” *2023 Asia-Pacific International Symposium on Aerospace Technology*, October 2023.

[C6] **E. Choi** and J. Ahn, “Optimal Short-Term Scheduling for Space Telescope in Low-Earth Orbit,” *2023 AAS/AIAA Astrodynamics Specialist Conference*, August 2023.

[C7] **E. Choi**, D. Han, and W. Chang, “Decentralized Task Allocation for Multiple UAVs with Iterative Cost Reduction,” *KSAS 2023 Spring Conference*, pp. 60–61, April 2023.

[C8] J. Ahn, **E. Choi** and D.U. Lee, “Application of routing problems to space exploration missions,” *2023 AIAA SciTech Forum*, January 2023.

[C9] W. Chang and **E. Choi**, “Trade-off Study on Multi-UAV Autonomous Mission Planning Algorithms,” *KSAS 2022 Fall Conference*, pp. 1736–1737, 2022.

[C10] **E. Choi** and W. Chang, “Multi-Agent Decentralized Task Allocation Algorithms with Fuel Constraints,” *KSAS 2021 Fall Conference*, pp. 432–433, 2021.

Media Articles

[M1] **E. Choi** and K. Ho, “SpaceX aims to use rockets to quickly transport cargo across the Earth and into orbit – moves that would expand the global cargo system,” *The Conversation*, 2026.

PATENT AND SOFTWARE DISCLOSURE

1. T. Noro, M. Isaji, **E. Choi**, S. Han, and K. Ho, “PosbasedOOSnearGSO.jl,” Software Disclosure, Invention ID 2026-248, 2025.

2. T. Noro, M. Isaji, **E. Choi**, S. Han, and K. Ho, “LowthrustSCP.jl,” Software Disclosure, Invention ID 2026-247, 2025.

3. D. Han, W. Jang, **E. Choi**, “Method and apparatus for determining the path of an unmanned vehicle using a distributed network,” *KR Patent*, 10-2946314, 2026.

4. **E. Choi**, K. Ho, and Y. Shimane, “Continuous Location Routing Problem for Orbital Depot (CLRPOD) v1.0.0,” Georgia Tech Software Disclosure, Invention ID 2026-018, 2025.
– <https://github.com/EuihyeonChoi/CLRPOD>

SCHOLARSHIPS AND AWARDS

• Global Korea Scholarship Program for Study Abroad (Ph.D.) by Korean Government Annually \$40,000 and Airfare	Fall 2024 – Summer 2026
• Finalist in 2023 Space Grand Challenge by KAIST, Hanwha Aerospace, and Hanwha Systems	Nov. 2023
• KAIST Scholarship Annually \$15,000 (Full-Ride)	Fall 2022 – Spring 2024
• ADD President’s Award: The Best Research Proposal Subject: Battery Dumping System to Improve Drone’s Endurance	Dec. 2019
• Degree of Bachelor of Science in Cum Laude	Feb. 2019
• The Boeing Company Scholarship Total \$3,500	Spring 2016 – Fall 2017
• National Natural Science and Engineering Scholarship Total \$20,000 (Full-Ride)	Spring 2017 – Fall 2018
• National Scholarship for Undergraduate Study Total \$13,500 (Full-Tuition)	Spring 2015 – Fall 2016

TECHNICAL JOURNAL OR CONFERENCE REFEREE ACTIVITIES

• Reviewer, *AIAA Journal of Aerospace Information Systems*, 2025, 2026

• Reviewer, *Cluster Computing*, 2026

• Reviewer, *AIAA SciTech*, 2025, 2026

• Reviewer, *AIAA Journal of Guidance, Control, and Dynamics*, 2025

• Reviewer, *The Journal of Supercomputing*, 2025

MENTORING & PROFESSIONAL SERVICE

• Research Mentor (External) Mentoring a Master’s student on active debris maneuver and on-orbit servicing research	University of Colorado Boulder Apr. 2026 – Present
• Undergraduate Research Mentor Guided the implementation of orbital routing problems and paper replication for space logistics	Georgia Tech Spring 2026 – Present
• Invited Speaker Delivered an invited talk for the 6th Research Officer for National Defense	ADD Sep. 2022
• Selected Mentor Mentoring for the 4th Research Officer for National Defense	ADD Oct. 2020 – Jan. 2021

PROJECTS

• Innovative Decision-Making Frameworks for Next-Generation Space Systems	Mitsubishi Electric Corporation, Georgia Tech Oct. 2025 – Mar. 2028
• Orbital Staging of Assets (Phase II)	Air Force STTR (Subaward from ThinkOrbital), Georgia Tech Oct. 2025 – May 2027
• ATLAS: Advancing Technologies for Logistics Architectures in Space	AFRL/AFOSR, Georgia Tech Aug. 2024 – Sep. 2026
• Space Logistics Model for Temporary Deployment of Earth Imaging Satellites	ThinkOrbital, Georgia Tech Feb. 2025 – Apr. 2025
• Mission Planning for Swarm of Tiny Satellites	LIG Nex1, KAIST Oct. 2023 – Jul. 2024
• Tactical Swarm Unmanned Aerial Vehicle Mission Planning and Autonomous Mission Replanning Technology	LIG Nex1, KAIST Oct. 2022 – Jul. 2024
• Modular Architecture Engineering: Extension Considering Practicality	Hyundai, KAIST Sep. 2022 – Jul. 2024
• Routing Problems Considering Value System for Exploration Missions	KAIST Sep. 2022 – Jul. 2024
• Low Observable Wingman UAV System	ADD Nov. 2021 – May. 2022
• Real-Time Decentralized Task Allocation for Multiple and Heterogeneous Unmanned Aerial Systems	AFRL, ADD Aug. 2021 – May. 2022
• Autonomous Navigation and Mission Management Technology	ADD Dec. 2019 – Aug. 2020

WORK/ACADEMIC EXPERIENCE

Republic of Korea Air Force Research Officer for National Defense, Second/First Lieutenant	Daejeon, Republic of Korea Jun. 2019 - May. 2022
Finalist in NASA’s RASC-AL* Competition Theme: Design Lunar Polar Sample Return Architecture – Title: Earth to Lunar Interchangeable Transportation Environment (ELITE) – <i>*RASC-AL: Revolutionary Aerospace Systems Concepts Academic Linkage</i>	Cocoa Beach, FL, USA Aug. 2017 – Jun. 2018
Tokyo Institute of Technology CAMPUS Asia Summer Program 2017 including Scholarship – Coursework: Communicating Science and Engineering in Society, etc.	Tokyo, Japan Jul. 2017
Nanjing University of Aeronautics and Astronautics (NUAA) Summer Program – Coursework: NUAA Engineering Training Program, etc.	Nanjing, China Jun. 2016 - Jul. 2016