Seokbin Yoon

sierra.bin@kau.ac.kr | (+82) 1062414426 | Goyang, South Korea | website | google scholar | github | linkedIn

EDUCATION	**M.S. Smart Air Mobility & Air Transportation**, Korea Aerospace University	Feb 2024

- **Grade**: 4.0/4.5
- **Thesis**: Trajectory Reconstruction and Prediction for Vectored Area Navigation Arrivals, Supervised by Dr. Keumjin Lee
- **Relevant Coursework**: Machine Learning, Computer Vision, Engineering Economy, Airport Simulation, Unmanned Aircraft System

	B.S. Air Transportation, Korea Aerospace University	Feb 2022

- **Grade**: 3.94/4.5
- **Relevant Coursework**: Air Traffic Management, Air Traffic Control, Probability & Statistics, Aviation Policy, Aviation Meteorology, Flight Operation Planning & Control

PROFESSIONAL EXPERIENCE	**Research Assistant**, Air Transportation Modeling and Control Laboratory	Feb 2024–Present

Supervised by Dr. Keumjin Lee
- Developing multi-agent trajectory model for flight trajectory prediction in terminal airpsace
- Developing automatic air traffic control speech recognition model
- Working on air traffic complexity inference with computer vision method

PUBLICATIONS AND CONFERENCES

[1] **S. Yoon**, K. Lee, "MAIFormer: Multi-Agent Inverted Transformer for Flight Trajectory Prediction," *In preparation*.

[2] **S. Yoon**, K. Lee, "Aircraft Trajectory Dataset Augmentation in Latent Space," *International Journal of Aeronautical & Space Sciences*. (Under Review)

[3] **S. Yoon**, K. Lee, "Aircraft Trajectory Prediction with Inverted Transformer," *IEEE Access* Available: 10.1109/ACCESS.2025.3539742

[4] H. Chai, **S. Yoon**, K. Lee, "Learning to Explain Air Traffic Situation," *First US-Europe Air Transportation Research & Development Symposium*, 2025. (Under Review) Available: https://www.arxiv.org/pdf/2502.10764

[5] J. Kang, **S. Yoon**, K. Lee, S. H. Kim, "Urban Air Mobility Fleet Rebalancing with Real-Time Updates on Estimated Time of Arrival," *AIAA/IEEE Digital Avionics System Conference*, 2024. (Best Paper of the Session) Available: 10.1109/DASC62030.2024.10748919

[6] **S. Yoon**, K. Lee, "Improving Aircraft Trajectory Prediction Accuracy with Over-sampling Technique," *AIAA/IEEE Digital Avionics System Conference*, 2023. Available: 10.1109/DASC58513.2023.10311324

[7] N.H. Gray, S. Shin, **S. Yoon**, Y. Park, H. Chai, K. Lee, H. Kim, S. Jung, "Safety and Capacity Analysis Framework for Integrated UAM Operation in Airports," *AIAA/IEEE Digital Avionics System Conference*, 2023. (Best Paper of the Session) Available: 10.1109/DASC58513.2023.10311230

HONORS AND AWARDS

Best Paper of the Session at AIAA/IEEE Digital Avionics System Conference 2024	Dec 2024
President's Award at Korea Aerospace University	Sep 2023
Best Paper of the Session at AIAA/IEEE Digital Avionics System Conference 2023	Oct 2023
Brain Korea 21 Plus (BK21+) Research Scholarship at Korean Government	Jun 2022–Jun 2023

PATENTS

[8] D. Kang, **S. Yoon**, K. Lee, H. Chai, Y. Ryu, "Method and Apparatus for Predicting Flight Path of Aircraft", Oct 2024, Domestic. (Pending)

[9] D. Kang, **S. Yoon**, K. Lee, Y. Ryu, "Method and Apparatus for Augmenting Flight Trajectory Data", Aug 2024, Domestic. (Pending)

CERTIFICATIONS AND LICENSES

Air Traffic Controller License, Ministry Land, Infrastructure and Transport, South Korea	Oct 2023
Machine Learning with Python-From Linear Models to Deep Learning, edX	May 2023

ACTIVITES

Student Air Traffic Controller, Korea Aerospace University	Feb 2021–Feb 2022

- Learned the air traffic control process of terminal and sector airspace (1 year)

- Field ATC training at Jungseok Airfield (Korean Air), South Korea (1 month)

Academic Club President, Korea Aerospace University   Jun 2021–Dec 2021
- Led the academic club about Urban Air Mobility (UAM)
- Participated undergraduate research competition

COMPETENCES   **Softwares**: Python, Matlab, Git, LaTeX

REFERENCES   **Keumjin Lee**, Professor
Department of Air Transport, Transportation, and Logistics, Korea Aerospace University-South Korea,
keumjin.lee@kau.ac.kr

Sang Hyun Kim, Associate Professor
Department of Air Transport, Transportation, and Logistics, Korea Aerospace University-South Korea,
sanghyun@kau.ac.kr

Hojong Baik, Professor
Department of Air Transport, Transportation, and Logistics, Korea Aerospace University-South Korea,
hbaik@kau.ac.kr

Jay Hoon Jung, Assistant Professor
Department of Computer Science, Korea Aerospace University-South Korea,
jhjung@kau.ac.kr