

# Seokbin Yoon

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EDUCATION	<b>M.S. Smart Air Mobility &amp; Air Transportation, Korea Aerospace University</b> Feb 2024 <ul style="list-style-type: none"><li>• <b>Grade:</b> 4.0/4.5</li><li>• <b>Thesis:</b> Trajectory Reconstruction and Prediction for Vectored Area Navigation Arrivals, Supervised by Dr. Keumjin Lee</li><li>• <b>Relevant Coursework:</b> Machine Learning, Computer Vision, Engineering Economy, Airport Simulation, Unmanned Aircraft System</li></ul> <b>B.S. Air Transportation, Korea Aerospace University</b> Feb 2022 <ul style="list-style-type: none"><li>• <b>Grade:</b> 3.94/4.5</li><li>• <b>Relevant Coursework:</b> Air Traffic Management, Air Traffic Control, Probability &amp; Statistics, Aviation Policy, Aviation Meteorology, Flight Operation Planning &amp; Control</li></ul>
PROFESSIONAL EXPERIENCE	<b>Research Assistant, Air Transportation Modeling and Control Laboratory</b> Feb 2024–Present Supervised by Dr. Keumjin Lee <ul style="list-style-type: none"><li>• Developing multi-agent trajectory model for flight trajectory prediction in terminal airspace</li><li>• Developing automatic air traffic control speech recognition model</li><li>• Working on air traffic complexity inference with computer vision method</li></ul>
PUBLICATIONS AND CONFERENCES	<ul style="list-style-type: none"><li>[1] <b>S. Yoon</b>, K. Kim, H. Seon, J. Lim, K. Lee, “Automatic Air Traffic Control Speech Recognition with Unified Acoustic-Language Models,” <i>In preparation</i>.</li><li>[2] <b>S. Yoon</b>, K. Lee, “MAIFormer: Multi-Agent Inverted Transformer for Flight Trajectory Prediction,” <i>In preparation</i>.</li><li>[3] <b>S. Yoon</b>, K. Lee, “Hybrid Aircraft Trajectory Dataset Augmentation Framework with Latent Space Representation and Probabilistic Model,” <i>In preparation</i>.</li><li>[4] H. Kim, <b>S. Yoon</b>, B. Kang, D. Jeon, K. Lee, “An Air Traffic Scene is Also Worth <math>32 \times 32</math> Words: Cognition-based Air Traffic Complexity Inference,” <i>In preparation</i>.</li><li>[5] <b>S. Yoon</b>, K. Lee, “Aircraft Trajectory Prediction with Inverted Transformer,” <i>IEEE Access</i> Available: <a href="#">10.1109/ACCESS.2025.3539742</a></li><li>[6] H. Chai, <b>S. Yoon</b>, K. Lee, “Learning to Explain Air Traffic Situation,” <i>First US-Europe Air Transportation Research &amp; Development Symposium</i>, 2025. (Under Review) Available: <a href="https://www.arxiv.org/pdf/2502.10764">https://www.arxiv.org/pdf/2502.10764</a></li><li>[7] J. Kang, <b>S. Yoon</b>, K. Lee, S. H. Kim, “Urban Air Mobility Fleet Rebalancing with Real-Time Updates on Estimated Time of Arrival,” <i>AIAA/IEEE Digital Avionics System Conference</i>, 2024. (<a href="#">Best Paper of the Session</a>) Available: <a href="#">10.1109/DASC62030.2024.10748919</a></li><li>[8] <b>S. Yoon</b>, K. Lee, “Improving Aircraft Trajectory Prediction Accuracy with Over-sampling Technique,” <i>AIAA/IEEE Digital Avionics System Conference</i>, 2023. Available: <a href="#">10.1109/DASC58513.2023.10311324</a></li><li>[9] N.H. Gray, S. Shin, <b>S. Yoon</b>, Y. Park, H. Chai, K. Lee, H. Kim, S. Jung, “Safety and Capacity Analysis Framework for Integrated UAM Operation in Airports,” <i>AIAA/IEEE Digital Avionics System Conference</i>, 2023. (<a href="#">Best Paper of the Session</a>) Available: <a href="#">10.1109/DASC58513.2023.10311230</a></li></ul>
HONORS AND AWARDS	<b>Best Paper of the Session</b> at AIAA/IEEE Digital Avionics System Conference 2024 Dec 2024 <b>President’s Award</b> at Korea Aerospace University Sep 2023 <b>Best Paper of the Session</b> at AIAA/IEEE Digital Avionics System Conference 2023 Oct 2023 <b>Brain Korea 21 Plus (BK21+) Research Scholarship</b> at Korean Government Jun 2022–Jun 2023
PATENTS	<ul style="list-style-type: none"><li>[10] D. Kang, <b>S. Yoon</b>, K. Lee, H. Chai, Y. Ryu, “Method and Apparatus for Predicting Flight Path of Aircraft”, Oct 2024, Domestic. (Pending)</li><li>[11] D. Kang, <b>S. Yoon</b>, K. Lee, Y. Ryu, “Method and Apparatus for Augmenting Flight Trajectory Data”, Aug 2024, Domestic. (Pending)</li></ul>
CERTIFICATIONS AND LICENSES	<b>Air Traffic Controller License</b> , Ministry Land, Infrastructure and Transport, South Korea Oct 2023

ACTIVITIES	<b>Student Air Traffic Controller</b> , Korea Aerospace University	Feb 2021–Feb 2022
	<ul style="list-style-type: none"><li>• Learned the air traffic control process of terminal and sector airspace (1 year)</li><li>• Field ATC training at Jungseok Airfield (Korean Air), South Korea (1 month)</li></ul>	
	<b>Academic Club President</b> , Korea Aerospace University	Mar 2020–Dec 2021
	<ul style="list-style-type: none"><li>• Led the academic club about Urban Air Mobility (UAM)</li><li>• Participated undergraduate research competition</li></ul>	
COMPETENCES	<b>Softwares:</b> Python, Matlab, Git, L <sup>A</sup> T <sub>E</sub> X	
REFERENCES	<b>Keumjin Lee</b> , Professor	
	Department of Air Transport, Transportation, and Logistics, Korea Aerospace University-South Korea, keumjin.lee@kau.ac.kr	
	<b>Sang Hyun Kim</b> , Associate Professor	
	Department of Air Transport, Transportation, and Logistics, Korea Aerospace University-South Korea, sanghyun@kau.ac.kr	
	<b>Hojong Baik</b> , Professor	
	Department of Air Transport, Transportation, and Logistics, Korea Aerospace University-South Korea, hbaik@kau.ac.kr	
	<b>Jay Hoon Jung</b> , Assistant Professor	
	Department of Computer Science, Korea Aerospace University-South Korea, jhjung@kau.ac.kr	