

# Ayse S. Okatan

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## Education

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**Embry–Riddle Aeronautical University (ERAU)**, Daytona Beach, FL  
B.S. in Electrical Engineering

Expected May 2026  
Minor: Computer Science

## Technical Skills

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**Programming** Python, C/C++, MATLAB, Java, Lua  
**RF / EDA** Altium, KiCad, Ansys HFSS, Keysight ADS  
**GNSS / DSP** Course-level exposure to GPS L1 C/A concepts (PN/Gold codes, acquisition theory); small lab simulations only  
**Tooling** Git (GitHub/GitLab), Linux, Shell, Azure DevOps, MobaXterm  
**Productivity** MS Office, Teams, SharePoint

## Publications

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- [1] Okatan, A. S., Akbaş, M. İ., Kandel, L. N., & Peköz, B. *Keys in the Weights: Transformer Authentication Using Model-Bound Latent Representations*. 2025 IEEE Cyber Awareness and Research Symposium (CARS), Grand Forks, ND, USA, pp. 1–6.  
DOI: [10.1109/CARS67163.2025.11337776](https://doi.org/10.1109/CARS67163.2025.11337776) | [IEEE Xplore](#) | [arXiv](#)
- [2] Okatan, A. S., Akbaş, M. İ., Kandel, L. N., & Peköz, B. *Seed-Induced Uniqueness in Transformer Models: Subspace Alignment Governs Subliminal Transfer*. 2025 IEEE Cyber Awareness and Research Symposium (CARS), Grand Forks, ND, USA, pp. 1–6.  
DOI: [10.1109/CARS67163.2025.11337559](https://doi.org/10.1109/CARS67163.2025.11337559) | [IEEE Xplore](#) | [arXiv](#)

## Project Experience

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### Starlink-Based Navigation System for Fixed-Wing UAV

Fall 2025 – Spring 2026

Senior Design

- Responsible for front-end architecture and electrical requirements for a fixed-wing UAV platform.
- Integrating teammates' APIs into a React front-end; wiring telemetry, navigation, and status views.

### Telemetry & Tracking RF Board (Sounding Rocket)

Aug 2025 – Present

IEEE Club Project

- Designed a dual-band front end at 1.575 GHz (L1 GNSS) and 915 MHz (ISM) on a compact 4-layer PCB with controlled-impedance routing.
- Conducted EM simulations (Ansys HFSS) and circuit co-simulations (Keysight ADS) to size matching networks and verify antenna/feed transitions.
- Developed a design-for-manufacture checklist: stack-up, via fences, return-path integrity, and test points for S-parameter validation.

### SaLED — Speech & Language Editing Software

Feb 2024 – Jun 2024

Research Assistant · Advisor: Dr. Liu Jianhua

- Developed a Python toolchain integrating Whisper/Kaldi with LLM prompts for assisted speech editing.
- Built interactive dashboards (Plotly/Dash) and reproducible environments (Poetry).

### Ambassador Bot

Apr 2024

IEEE Club Project

- Built an Arduino + Python robotic assistant with NLP (TalkLLaMA) and TTS (ElevenLabs); sensor-driven gaze tracking and CRT mouth display.

## Experience

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### NSF REU — Cybersecurity on Unmanned Aerial Systems

May 2024 – Aug 2024

Research Intern, Daytona Beach, FL

- Explored Transformer attention as implicit cryptographic keys in seq2seq architectures; evaluated cross-model decoder transfer.
- Ran controlled trials demonstrating decoder incompatibility across identically configured but independently trained models.

**Department Front Desk — Electrical Engineering & Computer Science**  
*ERAU*

*Aug 2024 – Present*

**Outreach Manager — ERAU Volunteer Network**  
*Student Engagement & Student Union*

*Oct 2024 – Apr 2025*

- Increased event engagement via targeted programming and campus-wide communications to 5,000+ students and staff.

## Awards

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Lockheed Martin STEM & Vocational Scholarship  
EECS Department Service Award

2022–2026  
Spring 2025

## Leadership & Involvement

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- IEEE — President/Chair (2025–2026)
- IEEE Women in Engineering — President/Chair (2025–2026)
- DEI Coalition — Director (2024–2025)
- Turkish Students Association — Founder & President (2022–2026)

## Languages

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Turkish (Native) | Spanish (High-school level)