Lily Forsythe

Aerodynamics Engineer

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Summary

Aerodynamics engineer with 3 years of CFD analysis and wind tunnel testing on business jet wings, nacelles and control surfaces. Runs STAR-CCM+ and ANSYS Fluent studies, writes Python and MATLAB tools for data analysis, and turns results into loads and performance data for certification.

Experience

06/2024 - Present
Savannah, GA

Aerodynamics Engineer

Coastal Jetworks

Business jet manufacturer with 2 aircraft in development.

- Run **250** STAR-CCM+ simulations a year on wing, flap and nacelle shapes for 2 aircraft programs.
- Verify CFD results against wind tunnel testing data, holding drag predictions within 2 counts.
- Develop aerodynamics databases for the flight simulator covering 1,800 flight conditions.
- Automate CAD geometry cleanup and meshing with Python, cutting model prep from days to hours.

06/2023 - 05/2024
Marietta, GA

Junior Aerodynamicist

Peach State Aero Research

Aerodynamic test and analysis consultancy.

- Planned 2 wind tunnel entries with 900 runs for a winglet and vortex generator study.
- Wrote MATLAB data analysis tools that cut tunnel data processing time 70%.
- Validated ANSYS Fluent models against 5 published test cases before program use.
- Presented test findings to 3 aircraft clients in written reports and drag polar reviews.

08/2021 - 05/2023
Atlanta, GA

Graduate Research Assistant

Georgia Institute of Technology School of Aerospace Engineering

Research assistant in a low-speed wind tunnel lab during the master's program.

- Operated a 7 x 10 ft low-speed wind tunnel for 400 runs on morphing wing models.
- Completed 120 CFD analysis cases in ANSYS Fluent for a thesis on flap edge noise.
- Mentored 6 undergraduate researchers on test setup and data analysis in MATLAB.

Skills

- Aerodynamics
- CFD Analysis
- STAR-CCM+
- ANSYS Fluent
- Wind Tunnel Testing
- Python
- MATLAB
- CAD
- Data Analysis

Education

05/2023
Atlanta, GA

Master of Science

Georgia Institute of Technology
Aerospace Engineering

Certificates

2023

Engineer in Training (EIT)

Georgia State Board of Registration for Professional Engineers and Land Surveyors