

Olivia Grant, EIT

Aerospace Engineer | Structures & Stress Analysis

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PROFILE

Aerospace Engineer with 3.5 years of experience in structural analysis and certification of commercial and defense airframe components. Performed stress analysis on 120+ structural parts, reduced component weight by 9% across redesigns (saving 340 lb per aircraft), and supported FAA certification submittals with zero comments on compliance reports. Proficient in Nastran/Patran, CATIA V5, and composite and metallic damage-tolerance analysis.

PROFESSIONAL EXPERIENCE

Stress Engineer

Jun 2023 – Present

Pacific Aerostructures Inc. — Seattle, WA

- Perform stress and fatigue analysis on 120+ fuselage and wing-attach components (aluminum, titanium, composite) for commercial aircraft programs.
- Reduced component weight by 9% through topology and gauge optimization, saving 340 lb per aircraft while maintaining positive margins of safety.
- Authored FAA compliance reports and supported certification test correlation; zero compliance comments from DER review.
- Built Python-based fastener analysis tool that cut analysis time by 45% and was adopted by a 20-person stress team.
- Resolve MRB and manufacturing nonconformance dispositions within 48 hours, minimizing line disruption.

Structures Engineer (Co-op to Full-Time)

Jul 2022 – May 2023

Northwest Defense Systems — Everett, WA

- Developed Nastran/Patran FE models for UAV wing and fuselage sections; correlated results to static test within 4%.
- Performed damage-tolerance assessments for composite sandwich panels per MIL-HDBK-17 guidelines.
- Supported ground vibration and static load test campaigns, processing strain-gauge data in MATLAB.
- Created CATIA V5 detail drawings and ECNs for 30 brackets and fittings.

ACADEMIC PROJECT

Structural lead, AIAA Design/Build/Fly team: designed carbon-fiber wing with 1.3 safety factor; team placed 3rd of 120 universities worldwide.

EXPERTISE

Structures & Analysis:

Stress Analysis (Metallic & Composite), Finite Element Analysis (Nastran, Patran, Abaqus), Fatigue & Damage Tolerance, Buckling, Fastener & Joint Analysis, Load Paths

Design & Certification:

CATIA V5, NX, FAR Part 25 Compliance, DO-160, AS9100, Test Planning & Correlation, Material Allowables (MMPDS), GD&T, ECN/MRB Support

Tools & Programming:

MATLAB, Python, Excel (VBA), Teamcenter, SAP, Jira, MathCAD

EDUCATION

Master of Science in Aerospace Engineering

University of Washington
— Seattle, WA
2022 | GPA 3.8

B.S. in Aerospace Engineering

Purdue University
2020

CREDENTIALS

- Engineer in Training (EIT), State of Washington
- AS9100 Quality Systems Awareness
- AIAA Member