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Matthew R. Gray

Summary of Qualifications

- High & Low-Speed Aerodynamics
- Aircraft Design
- Fluent and Numerical Propulsion System Simulation (NPSS)
- SolidWorks Modeling
- Design and Analysis of Aircraft Structures
- AFGROW Crack Growth Modeling
- FEMAP/NASTRAN Finite Element Analysis
- Substantiation Analysis

Experience

July 2016 to Present	SAFE Inc.	Monument, CO

Junior Engineer

- Substantiation analysis for proposed part repair on Boeing 757, 767 using supersonic particle deposition (SPD)
  - Performed detailed hand calculations to estimate fastener loads and calculate margins of safety.
  - Reviewed structural repair manuals and developed specific repair procedures and limits for SPD part repairs
- Substantiation analysis for SPD repair of parts for IAI KFIR C2, and Sikorsky S-92
  - 3D models created in SolidWorks used for finite element analysis in NASTRAN
  - Documented analysis in final report for FAA review
- Analysis of KC-135 Teardown Failure Analysis Findings
  - Damage tolerance analysis including crack growth prediction
  - Detailed structural modeling of sections of fuselage and wing using SolidWorks and FEA using FEMAP/NASTRAN
- Test design, planning, and execution of material testing to characterize SPD properties
  - Developed test plans which conformed to ASTM testing procedures and approved by FAA
  - Executed tests, recorded and analyzed data from comprehensive test program
  - Material properties obtained were used in repair substantiation

May 2015 to Aug 2015	Aeronautica	Greenville, SC

Engineering Internship

- Design replacement and repair parts for Lockheed L-1649A restoration
- Performed stress analysis on replacement and repair designs for Lockheed restoration

Education

Aug 2012 - May 2016	Auburn University	Auburn, AL

BE – Aerospace Engineering

Professional Affiliations

Member, American Institute of Aeronautics and Astronautics (AIAA)

Specialized Training

Siemens FEMAP Finite Element Analysis, April 2017