

MARCIO VILLANUEVA

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Professional Summary

Structural Analysis Engineer with five years of experience in conducting structural analysis and implementing structural design repairs for both composite and metallic structures. Collaborated with suppliers and customers across various sites for The Boeing Company. Experience in structural analysis, fleet support, and project management.

PROFESSIONAL EXPERIENCE

The Boeing Company **Structural Analysis Engineer**

Ridley Park, PA
Jan 2015 – Present

Currently I am the main structural engineer for the Wing's Deflection Control Ribs of the 777X Non-Recurring Product Development team. I am responsible for the design configuration, gage sizing, and margin of safety determination of all Deflection Control Ribs on the Fixed Leading Edge. Current responsibilities include:

- Ensuring all necessary checks are performed per Boeing policy and to meet regulatory agencies certification standards.
- Creating Finite Element Models for structural analysis.
- Working closely with the Design, Manufacturing and Test engineering teams to ensure the product meets requirements throughout all lifecycle phases, from concept on through manufacturing and field service support.
- Creating and tracking schedule to meet program milestones.
- Writing detailed analysis-reports listing allowables and analysis methods to substantiate design requirements.
- Additional responsibilities are; conducting trade study development, creating detailed design models, extracting loads from Finite Element Models, conducting stress and fatigue checks.

Lead Structural Analysis Engineer

Ridley Park, PA
Nov 2011 – Dec 2014

The Boeing Philadelphia site was contracted to provide support to the 787 Dreamliner Liaison Production Line in Charleston, South Carolina. Being part of the support stress team, I was promoted to lead the effort. I led and trained 18 analysts in performing structural repair analysis for fleet support.

Responsibilities included:

- Developing, reviewing and releasing stress analysis reports to substantiate discrepancies on the fuselage and wing components.
- Ensuring structural integrity of airplane components including but not limited to airframe, fuselage, floor, bulkheads and systems.
- Assessing static, fatigue, and damage tolerance capabilities of metallic and composite assemblies.
- Working closely with quality engineers, liaison engineers, and mechanics to coordinate repair and disposition activities.
- Creating engineering repair documents, which outline the appropriate dispositions for future repairs, modifications and inspection methods to comply with F.A.A. standards.

Leadership responsibilities included:

- Providing day-to-day direction to analysts and providing status reports, schedule and budget forecast to upper management.

- Coordinating with F.A.A. Authorized Representatives for major repair analyses that vastly deviated from baseline methods.
- Tracking and creating performance metrics.
- Developing new systems to improve overall program profitability.
- Extensive travel to provide on-site production support in Charleston, South Carolina.

Payloads Engineer

Huntsville, AL
Nov 2010 – Nov 2011

Boeing is the primary contractor for the NASA Space Launch Systems Product Development. I was part of the pyrotechnics group in charge of the frangible joint that detaches the upper stage from the lower stage. Responsibilities included:

- Assisting with supplier development, test and production activities.
- Coordinating with the supplier to optimize the design and achieve program goals.
- Supporting investigation of emerging technologies to develop concepts for future product designs.
- Leading an investigation, which included scale testing, on the use of X-ray backscatter technology to meet final assembly requirements.
- Supervising and coordinating a half scale compression test to validate and verify that components met requirements and specifications.

EDUCATION

Villanova University, Villanova, Pennsylvania
Masters of Science in Mechanical Engineering, Dec 2015
Cumulative GPA: 3.63

Embry-Riddle Aeronautical University, Daytona Beach, Florida
Bachelor of Science in Aerospace Engineering, May 2010
Cumulative GPA: 3.60

HONORS

Boeing Pride Award for Cost Savings and Schedule Compliance-2015
Excellence award by given by Boeing's Defense Vice President-2014
Boeing Pride Award for outstanding Team Building-2014
Dean's List: Spring, 2007-2010
The National Scholars Honor Society, 2008-2010
Phi Theta Kappa Honor Society, 2005-2010

TECHNICAL SKILLS

Engineering Software: NASTRAN, PATRAN, Hypermesh, CATIA V5, ENOVIA
Programming: C++, Matlab, some Visual Basics
Microsoft Office (Excel, Word, PowerPoint)

LANGUAGES

Fluent in English and Spanish