Michael Fundaro

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I believe that when you try to understand the physics at work in the world around you, things become way more interesting.

Authorized to work in the US for any employer

Work Experience

Structures Engineer

MTU Aero Engines North America - Rocky Hill, CT
January 2017 to Present

Projects Include:
• PW1100G-JM High Pressure Compressor Redesign - Lead structural analyst for a rotating secondary flow component. Redesign solves an HCF issue, analysis shows that Goodman consumption is cut in half. Verification testing to begin in Spring 2020 (ANSYS/APDL)
• PW1200G Low Pressure Compressor Redesign - Rotor LCF and Fracture lifing, Airfoil HCF re-tuning (ANSYS/APDL, NX)
• Undisclosed Customer - Low Pressure Turbine balance weights assessment. (Hand Calcs)
• Undisclosed Customer - High Pressure Compressor LCF and Fracture lifing (MARC/Mentat, Python)
• PW1100G/PW1500G Low Pressure Turbine Redesign - 3D FEA model setup & pre-processing. (Hypermesh, NX, Abaqus)
• PWPS Turbine Exhaust Temperature Probe - Harmonic analysis of redesigned probe (Hand Calcs)

Structures Engineer

QuEST Global Engineering - East Hartford, CT
September 2015 to January 2017

Projects Include:
• PW1500G High Pressure Compressor Blend Repair Limits - Rotor LCF and Fracture lifing to determine allowable blend depth and aspect ratio. Published limits in the PW1500G Engine Manual (ANSYS/APDL, MS Excel)
• PW1500G HPC and LPT snap diameter plasma coat repairs - Modeled snap diameter turning operation into FEA model and conducted LCF and Fracture life assessment of repaired hardware. (ANSYS/APDL)
• PW1500G Low Shaft snap diameter plasma coat repair - Built a 3D submodel to determine the effects of a snap diameter turning operation in close proximity to a clocking hole in the low pressure shaft. (ANSYS/APDL)

Project Engineer

QuEST Global Engineering - East Hartford, CT
June 2013 to September 2015

Projects Include:

• PW1500G External Bracket Redesign for Cost Savings - Worked with designers and suppliers to change bracket design from sheet metal to injection molded plastic. (Supplier interface, Preliminary Design Reviews)
• Nacelle & Engine Integration Design Standard Work Overhaul - worked directly with chief engineers to document existing BOM structure practices, identify weak spots, and improve the process. (Process improvement, story-boarding)
• FT4000 Industrial Compressor blade re-sourcing - coordinated efforts between new blade manufacturer and PW quality team to certify the supplier. (Scheduling, Punch List)
• PW1100G Fan Hub & Fan Shaft redesign - Ran technical team meetings, kept minutes, maintained schedule. (Gantt Chart, Action Item tracking)
• PW4000 Fan Cowl Latch Redesign - Interfaced with supplier to move redesign through P&W BOM update workflow. (Supplier interface, Design Reviews)

Team Leader

RPI Formula SAE - Troy, NY
May 2012 to May 2013

Took on the role of lead project engineer responsible for timely development, construction and testing of RPI's Formula SAE racecar.
• Recovered ~2 month gap in chassis build schedule by "outsourcing" the welding to a local vocational school.
• Coordinated full scale wind tunnel testing with Calspan in Buffalo, NY. Arranged for time in Calspan's sub-sonic wind tunnel, wrote and executed test plan, planned travel for 5 to/from Buffalo.

Team Member

RPI Formula SAE - Troy, NY
August 2011 to May 2013

Took on various roles, both technical and non-technical.
• Redesigned and fabricated motor oil pickup. Cut weight in half while maintaining required oil pressure.
• Designed and fabricated the "push-pull" bar for competition. Used my experience pushing sleds at football practice to design a more ergonomic product.
• Designed "The Stig" Stencil for tagging/canvassing around campus during recruiting efforts. Had a part in growing the team from 10 to roughly 40 members.
• Fabricated suspension A-arms. Cut steel tubes to length, bent and ground ends to fit bearing seat, prepped for welding.
• Hybrid steel-composite chassis fabrication. Using Solidworks, aligned cuts and folds in carbon sandwich panels. Executed said cuts and folds before bonding to steel chassis.
• Carbon fiber seat fabrication. Constructed fiberglass mold, and made a carbon fiber bucket seat that weighed 17oz.

Education

Bachelor's in Aeronautical Engineering

Rensselaer Polytechnic Institute - Troy, NY
August 2009 to May 2013

High school or equivalent
Waldwick High School - Waldwick, NJ
September 2005 to June 2009

Skills

FEA, ANSYS, Hyperworks, NX11, Python, VBA, Word, CAD, Microsoft Office, Linux, SolidWorks (2 years)