Victor A Medina

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WORK EXPERIENCE

Boeing, Long Beach CA

Structural Analysis Engineer, *Propulsion Systems Division* ***2015-Present***

- Performs structural analysis (Classical and FEA), finite element modeling, detailed stress analysis, dynamic analysis, and test support (static/dynamic)
- Creates technical documents that communicates analysis results to project teams, project managers and customers
- Utilized Python's data analytic packages (Pandas, Numpy) to quickly determine element load trends between different load cases reducing man hours by 75% versus manually importing data through excel
- Created a script that would take a table of various case studies and automatically create respective run files to efficiently determine potential design space reducing manual work by 25%

Propulsion DevOps Engineer, *Propulsion Systems Division* ***2019-Present***

- Implemented DevOps principles to Boeing Propulsion Enterprise team introducing new processes to reduce standard workflow time
- Created GIT standard practices for Finite Element Model development through airplane program reducing FEM development by 75%
- Utilized CI/CD pipeline to create finite element pre/post checks that will automatically test finite element models commits for checks typically done manually thus significantly reducing manual workload by over 80%
- Lead of the SoCal Propulsion site introducing tools and processes to the regional site

PROJECTS

737 MAX APU Exhaust Thermal Blankets RCCA ***2020***

- Stress focal for the MAX APU Exhaust Thermal Blankets Cracks Root Cause/Correct Action
- Created analytical models to support root cause assessments for wide spread cracks found on the thermal blanket
- Created test plans for Thermal Blanket skins to gather material properties, fatigue life, etc to validate analytical models

777-X Nacelle Inlet Certification Loads Cycle Analysis ***2017- 2019***

- EAI Supply Focal between Exotic (Supplier) and PSC. Analyzed EAI Supply given various loadcases to give supplier critical deflections at specified locations
- Focal of the Forward Bulkhead analysis and documentation. Managed the schedule, compiled half a dozen engineers analyses/documentation to a concise analysis package
- Modified various finite element models and analyzed/documented pre-checkouts (material, connectivity, properties, weight tuning etc. verification) as well as post processing checkouts (free-free modal analysis, grounded modal analysis, thermal tests, and gravity loads verifications)
- Analyzed various case studies (High Pressure Shut off Valve, GAP Sensitivity Analysis, EAI Exhaust Pipe Stove trade study) using finite element analysis and python/excel for data manipulation/processing

737-MAX Structural Repair Manual (SRM) ***2016-2019***

- Focal of the 737-MAX Inlet SRM project which allows airlines to complete repairs without consulting Boeing by analyzing critical damage details saving customers significant money and time
- Utilized FEA software (Hypermesh, Nastran) to simulate and assess certain damages such as dented material, holes, fastener damage, and composite damage

LEADERSHIP

Lead Structural Analysis Engineer, Auxiliary Power Systems Development, Boeing ***2019 - 2020***

- Lead Structural Analysis Engineer for the APU system development team for NMA involving several suppliers/teaming partners, and require frequent customer interface
- Lead development, integration and documentation of structural requirements to establish the system design
- Guided product design and verified structural integrity by using and developing analytical methods, finite element models/simulations and other analysis tools throughout the product lifecycle to develop the structural environment, characteristics and performance
- Integrated a GIT process for Finite Element Models and CI for typical FEM checks that have now been automated for quicker FEM development reducing the need for FEM rework and manual checks saving over 80% man hours when compared to traditional methods
- Utilized the Agile framework for project management
- Developed analytical processes/tools using Python to improve effectiveness, quality and efficiency of the development effort.

SKILLS

Software: Python (Intermediate), Nastran, Hyperworks, GIT
Foreign Languages: Spanish

EDUCATION

Carnegie Mellon University, Pittsburgh, PA

Master of Science in Mechanical Engineering, GPA: 3.83/4.0 ***May 2015***
Bachelor of Science in Mechanical Engineering, GPA: 3.37/4.0 ***May 2014***
Double Major in Engineering & Public Policy

University of Washington

Certificate, Python Programming ***January 2020***