

Gabe Carvalho

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Experience

Spacecraft & Payload Operations and Test Engineer

Kennedy Space Center, FL

AMENTUM - COMET

January 2024 – Present

- Supporting Orion landing and recovery operations as well as leading V&V of recovery support equipment and de-servicing operations.
- Developed the pre-flight processing of ICPS Thermal Control Blankets and Orion Thermal Protection System closeout and inspections.
- Supporting ISS commercial resupply and research missions by leading spacecraft and payload processing operations. Example customer payloads include CYGNUS, CODEX, and NORS.
- Supported Europa Clipper processing by providing support to hypergolic fueling under the Launch Service Provider directive.
- Key Skills: Task Team Leader, Interagency Communication, Mentorship, Problem Solving, & Project Management.

Senior Engineering Intern

Thomasville, GA

PURSUIT AEROSPACE

May 2023 – July 2023

- Worked with senior engineers and management in the development of a new department with the goal of manufacturing endmills to reduce tooling expenses.
- Designed the testing procedure and requirements to certify the endmills for use on production parts to satisfy customer requirements.
- Programmed 5-axis mills and CNC lathes to support jet engine airfoil manufacturing for customers such as Pratt & Whitney, Rolls Royce, and Honeywell.
- Lead engineer for the group of 7 engineering interns. Responsibilities included providing guidance on projects, planning timelines, and interfacing with management to ensure success.
- Key Skills: Kaizen, 5S, Project Management, Leadership, CAD, CAM, GD&T, & Process Planning

Projects

Orion C-17 Transportation

Solumina, Requirements Planning,
Project Management

LED THE MODIFICATION OF THE ORION RECOVERY CRADLE ASSEMBLY (ORCA) TO MEET U.S. AIR FORCE REQUIREMENTS FOR HAZARDOUS MATERIAL TRANSPORT ABOARD A C-17 IN SUPPORT OF ARTEMIS II REQUIREMENTS FOR THE AIR TRANSPORT OF ORION FROM NAVAL BASE SAN DIEGO TO KENNEDY SPACE CENTER POST-FLIGHT. HELPED DEVELOPED THE REQUIREMENTS MATRIX AS WELL AS DESIGNED AND OVERSAW V&V OPERATIONS TO PROVE CONFORMANCE.

Underway Recovery Training 12

Interagency Coordination,
Leadership

SPENT A WEEK UNDERWAY ABOARD THE USS SOMERSET PARTICIPATING IN TRAINING OPERATIONS SUCH AS ASTRONAUT FAMILIARITY OF THE ORION MOCKUP, NAVY SAILOR TRAINING OF RECOVERY SUPPORT EQUIPMENT, AND EMERGENCY PROCEDURE SIMULATION. FOLLOWING THE MISSION, LED DECONFIGURATION OF EQUIPMENT INSTALLED ON THE SOMERSET, PREPARING IT FOR STORAGE AT NAVAL BASE SAN DIEGO OR TRANSPORT BACK TO KENNEDY SPACE CENTER.

Vee-Tail Static Stability Analysis - Undergraduate Research

CFD, Vortex Lattice Analysis

DERIVED LONGITUDINAL, DIRECTIONAL, AND LATERAL STATIC STABILITY EQUATIONS FOR VEE-TAIL EMPENNAGE CONFIGURATION. VORTEX LATTICE ANALYSIS AND CFD DEMONSTRATED AGREEMENT WITHIN $\pm 5\%$ OF HAND CALCULATIONS SUPPORTING THE VALIDITY OF THE EQUATIONS.

Aircraft Structural Detail Design - Senior Design Project

FEMAP, MATLAB, Excel VBA

PROJECT MANAGER FOR A TEAM OF 6 ENGINEERS IN THE DETAIL DESIGN OF THE WING STRUCTURE OF AN UNMANNED FIREFIGHTING DRONE FOLLOWING 14CFR PART 25 REGULATIONS WITH AN EMPHASIS IN EXPLORING THE EFFECTS OF G-JUMP AND CONDUCTING DAMAGE TOLERANCE ANALYSIS TO DETERMINE PROPER MRO INTERVALS. COMPLETED AIRWORTHINESS AND LOADING ANALYSIS OF THE AIRCRAFT TO DETERMINE STRUCTURAL DESIGN REQUIREMENTS.

Education

Embry-Riddle Aeronautical University

Daytona Beach, FL

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING

Aug 2020 – Dec 2023

GPA: 3.7

Skills

CAD/CAM Software: Siemens NX (CAD & CAM), CATIA V5 & V6, Fusion360 (CAD, CAM, & CFD), Solidworks
Manufacturing: 3-axis & 5-axis CNC Mills, 3D Printing (FDM & SLA), Sewing
Other Software: Excel VBA, MATLAB, NASTRAN FEMAP, Windchill PLM, Solumina, Maximo

Certifications and Achievements

March, 2025	Lean Six Sigma - Green Belt , Obtained White belt, Yellow belt, and Green Belt certifications. Completed Black Belt exam but did not have company support to undertake a project to officially earn the certification.	<i>The Council for Six Sigma Certification</i>
May, 2023	Kaizen , Trained by Sensei Chihiro Nakao, in Kaizen, 5S, and continuous improvement practices.	<i>Shingijutsu USA</i>
Spring/Fall, 2023	Member of Student & Industry Advisory Board , Advised the Aerospace Engineering department on academic and industry topics such as student concerns, curriculum, and the future of the industry.	<i>ERAU</i>