Tatiana Jaimes

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EDUCATION

University of Florida, Gainesville, FL — Expected December 2026
Master of Science in Aerospace Engineering | *GPA:* ***4.0***

Vaughn College of Aeronautics and Technology, East Elmhurst, NY — December 2022
Summa Cum Laude Bachelor of Science in Mechatronic Engineering | *GPA:* ***3.99***

RELEVANT COURSEWORK

Digital Systems Design | Mechanics of Materials | Electronic Circuits | Heat Transfer | Thermodynamics | Fluid Mechanics | Geometry of Mechanisms and Robots I | Microprocessors | Control Systems | Elements of Machine Design | Mechatronics I | Mechatronics II | Finite Element Analysis | Geometry of Mechanisms and Robots II | Nontraditional Manufacturing

EXPERIENCE

NASA, Jet Propulsion Laboratory, Pasadena, CA

Mechatronics Engineer, CITADEL Cryogenic-Vacuum Chamber Lead Testbed Operator — February 2024 – Present
- Prototyping a compact thermal shroud within the chamber, with strict volume constraints and repurposing heritage hardware, to enhance the housing thermal performance and reduce development time and costs
- Designed mechanical support equipment to optimize thermal conductivity to a stomp plate and enable low temperature readings for NASA's Johnson Space Center astronaut boot testing
- Developed detailed test procedure and system schematics to ensure safe, efficient, and repeatable tests under space-like conditions
- Led testbed setup and robotic programming of a 3-DOF arm to assess the scientific integrity of ice sample collections under vacuum

Mechatronics Engineer, Sample Transfer System – Single Degree of Freedom Testbed Lead — June 2023 – February 2024
- Delivered test plans and readiness reviews to determine hardware and software requirements for active compliance testing
- Designed testbed support hardware, sequences, and operation procedures to execute test campaigns
- Supported spare actuator builds for the Sample Transfer Arm Testbed

Daimler Truck North America, Detroit Diesel Corporation, Detroit, MI

ePowertrain Systems Validation Intern — May 2022 – August 2022
- Programmed Python scripts to create dashboards that display the daily and weekly energy consumption on the RG vehicle
- Generated scripts on HIL using proprietary software language to test eOBD compliance requirements automatically

NASA, Goddard Space Flight Center, Greenbelt, MD

Electromechanical Systems Pathways Intern — February 2022 – May 2022
- Researched control system theories and methods to optimize Simulink models for the CCRS mission

Electromechanical Systems Pathways Intern — May 2021 - August 2021
- Modeled thermo-vacuum and vibration plates to subject the camera positioning mechanisms for testing on OSAM-1
- Computed the wiring diagram for the motor and thermocouple connections on the HDL for design validation

PUBLICATIONS

BrailleBud: Transitional Learning Tool from Pre-Literacy to Braille Literacy. (2021).
Jaimes, T., Santander, A., Rodriguez, A. 19th LACCEI International Conference for Engineering, Education, and Technology.
- Programmed 5V solenoids with PIR sensors to detect the movement of a child's hand above the tablet
- Assembled a compact circuit design to include the device's electrical components, including the PIR sensors and solenoids

ReGenBot: Design of an Autonomous Robot to Revitalize Burned Soil in South American Forests. (2022).
Santander, A., **Jaimes, T.,** Sorto, C. 20th LACCEI International Conference for Engineering, Education, and Technology.
- Programmed the NPK, temperature, and moisture sensors to collect the soil's information and determine its viability for regrowth
- Programmed the robot's mapping algorithm based on the user's input for the robot to travel through the field autonomously

Development and Implementation of a Wireless Telemetry System for a Mechanical Rover Prototype. (2023).
Santander, A., **Jaimes, T.,** Abdrasulov, A. 21st LACCEI International Conference for Engineering, Education, and Technology.
- Researched and validated the sensors onboard the rover to capture the driver, rover, and environment status during competition
- Interfaced the data collection to be communicated through Arduino's IoT Cloud and displayed real-time on the dashboard

HONORS/AWARDS

The Wings Club Scholarship 2021
VEX U Robotics World Excellence Award 2022
Aviation Week's 20 Twenties Class of 2022
LACCEI Conference Student Paper 1st Place 2022
LACCEI Conference Student Paper 1st Place 2023
El Diario Mujeres Destacadas 2024

SKILLS

Computer: Microsoft Office Suite, HTML, HTML5, CSS, CATIA, SolidWorks, CREO, NX, GD&T, NI Multisim, Vivado, MPLAB, MATLAB, TinkerCAD, Fritzing, Visio, CANape, PROVEtech TA, C++, Python, JMP, RSVP Lite, GitLab

Technical: Hand tools, power tools, calipers, dial indicators, 3D printers, laser engraving, Arduino