FERNANDA B. SANCHES

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EDUCATION

University of South Florida — Tampa, FL
B.S. in Mechanical Engineering — **GPA: 3.93/4.0** — Expected graduation: May 2026
Judy Genshaft Honors College

EXPERIENCE

Grupo NC – EMS — Jun 2024 – Aug 2024
Summer Trainee

- Analyzed and documented workflow in the R&D department, going through job rotations and interacting with people from 8+ multidisciplinary teams. Through this, I also **identified key improvements** needed in the processes to **optimize** them.
- Coordinated the **communication** between the Tech and R&D teams, aligning needs and clearing expectations for the development of a Python-based automation tool streamlining Excel spreadsheet analysis. This resulted in a more than **90%** reduction in task completion time, from 2 hours to under 30 seconds, improving operational productivity and cross-team collaboration.

Acousto-Bioelectronics Lab (USF) — May 2023 - Jul 2023
Research Assistant

- **Designed** and **prototyped** multiple 3D structures using **Fusion 360** to test material properties across various products, contributing to the evaluation of potential biomaterial options. This design work was combined with an in-depth **literature review** to identify the best-performing biomaterials for the project.
- **Collaborated** closely with the project lead to **troubleshoot** technical challenges, applying creative problem-solving techniques to resolve issues, including conducting manual experiments to test the crosslink between Pluronic F-147 and GelMA, to ensure successful project advancement.

DFX Lab – Design for X Laboratory (USF) — Apr 2022 – Mar 2023
Student Lead / Lab Assistant

- **Conducted** Lab Safety and 3D Printing **training** for 60+ students weekly, ensuring adherence to **safety protocols** and proper operation of lab machinery, while fostering a culture of safety and responsibility in the laboratory environment.
- **Coordinated** lab **events** to drive staff and student engagement, including the successful planning and execution of the Engineering Expo, attended by **200+ people**. The event featured machine demonstrations for children, where I utilized quick problem-solving to respond to live feedback and improve participant experience.
- **Implemented lab improvements**, such as laser cutting a base for numbering 3D printer beds. This innovation enhanced equipment organization and usability, significantly improving students' interaction with lab resources.

PROJECTS / LEADERSHIP

ASME: American Society of Mechanical Engineers — May 2024 - Present
Technical Development Director

- Structured monthly workshops focused on **hands-on** activities to help students develop **technical skills** highly valued in the industry, such as **CAD Design**, **soldering**, and **microcontroller** applications.
- Developed **soft skills** like **leadership**, task **delegation**, under-pressure **decision-making**, calendar coordination, inter-team communication, and more.
- Led a team of 20+ students through the development of a 3D Printed Glider for a national competition.

MATLAB Programming — Aug 2024 – Present
Developer

- **Coded** a MATLAB program to model the cooling process of a cylindrical aluminum object in an ice bath, incorporating **iterative loops, numerical methods,** and **logical assumptions**. Implemented a custom **function** to determine the roots of the cooling equation using the **bisection method**.

Innovative Additive Manufacturing 3D (IAM3D) – 3D Printed Drone — Feb 2024 – Nov 2024
Design Lead

- Engaged in the ASME national student IAM3D competition by contributing to the prototype development of a drone, and refining **CAD** and 3-D printing skills that resulted in the team's drone placing **2nd Place** in the Drone Race Challenge.
- Participated in weekly meetings, team discussions, and brainstorming sessions to further enhance the project's design development and manufacturing processes, applying **problem-solving** techniques.
- Contributed to the drone's pick-up mechanism design process by creating, 3-D printing, and testing pick-up variations and prototypes or **servo-controlled** systems.

SKILLS

- **Software:** SolidWorks, TinkerCAD, Fusion360, MATLAB, RStudio, Simulink, LT Spice, Arduino, Microsoft Suite.
- **Technical:** 3D Printing, Laser cutting, 3D bioprinting, Soldering.
- **Languages:** English (proficient), Portuguese (native), Spanish (proficient), German (beginner).
- **Certificates:** SolidWorks – CSWA, Additive Manufacturing, Sustainability/ Lab Safety