

ANGEL HERNANDEZ

Mechanical Engineer

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EDUCATION

Bachelor of Science – Mechanical Engineering
Minor: Judy Genshaft Honors College | GPA: 3.3/4.0

University of South Florida
Tampa, FL - May 2027

TECHNICAL SKILLS

SolidWorks (3D Part Modeling, Assembly Design, 2D Drafting) | MATLAB | Bambu Studio (Slicing & Toolpath Generation) | BOM (Bill of Materials) | CSWA/ CSWP | Additive Manufacturing (FDM/FFF) | Rapid Prototyping | Design for Manufacturing & Assembly (DFM/DFA) | Mechanical Assembly | Functional Testing | Post-Processing |

Languages: English (Native), Spanish (Native), French (Proficient)

PROFESSIONAL EXPERIENCE

WORK AUTHORIZATION: US Permanent Resident

RESEARCH ASSISTANT | USF Innovation Center | Tampa, FL

May 2026 – Present

- Led the CAD design in SolidWorks and rapid prototyping for a 3D-printed gait rehab foot attachment under Dr. Reed, running through **11 physical design iterations**.
- Optimized FDM printing parameters and toolpaths in Bambu Studio for composite filaments (PA-CF / TPU), achieving a **60% increase** in structural rigidity while cutting print cycle times by **14%**.
- Coordinated with a **4-person team** to manually assemble prototypes, troubleshoot tight clearance and tolerance issues, and run physical load and fit tests to keep project milestones on track. Overall, reducing post-processing and fitting adjustments by **40%**.

ELECTRICIAN FIELD TECHNICIAN | Facility Protection Group | Tampa, FL

May 2023 – Aug 2024 (Seasonal)

- Read and interpreted technical blueprints to map out hardware routing and physical component placement across **20+ commercial job sites**.
- Installed, mounted, and wired commercial protection hardware, including control panels and open-access security systems, **ensuring 100% compliance** with layout specs. I also troubleshoot live wiring routing, connections, and enclosure fits on-site, cutting down install delays.

DESIGN PROJECTS

LEAD MECHANICAL DESIGNER | Astronaut Exercise Loading System | Tampa, FL

Aug 2026 – Present

USF Capstone Design & Cardiff University MSKBRF

- Leading mechanical design and scoping for a lightweight wearable mechanical-loading suit to mitigate bone density loss in microgravity across multi-environment missions (ISS, Lunar, and Martian gravity).
- Collaborating cross-functionally with 2 labs (USF Carey RRT Lab & Cardiff University MSKBRF) to define CAD packaging constraints and load distribution targets. Having primary technical interviews with a 2-time NASA Space Shuttle astronaut to establish ergonomic thresholds and force requirements for daily wear of the device.
- Developing experimental test protocols utilizing multi-axis force plates and 3D optical motion capture systems to validate dynamic axial musculoskeletal loading against targeted baseline goals.

3D DESIGN LEAD | 3D PlotterBot Nozzle Cover | Tampa, FL

December 2025

Judy Genshaft Honors College

- Designed and modeled a custom threaded sealing cap in SolidWorks to eliminate clay dehydration and nozzle clogging in automated ceramic 3D printers.
- Manufactured functional PLA prototypes via FDM, optimizing wall thickness and thread clearances to ensure an airtight mechanical seal under continuous studio use.
- Successfully deployed the final component across active printers in the JGHC Art Studio, cutting material waste and setup maintenance downtime to 0%. Additionally presented the design through USF's Tech. Transfer office through the Research & Innovation Center, validating the mechanical viability and commercial scalability to get it to other campus.

TECHNICAL PORTFOLIO & ADDITIONAL PROJECTS | [angelhernandezportfolio.com](#)

COMMUNITY LEADERSHIP

Eagle Scout Rank, BSA Troop 89
Boy Scouts of America (BSA)

Nativity Catholic Church | Brandon, FL
May 2023

Multimedia Producer, Marketing Team
Society of Aerospace and Rocketry at USF

Unv. of South Florida | Tampa, FL
June 2025 – July 2026