Alessandra Skarshinski-Fred

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EDUCATION

University of Florida, Herbert Wertheim College of Engineering May 2028
Bachelor of Science, Major in Mechanical Engineering GPA: 4.0 / 4.0
Minor: Electrical Engineering
Relevant Coursework: Dynamics, Thermodynamics, Mechanics of Materials, Circuits 1, Statics

TECHNICAL SKILLS

SolidWorks (CSWA Certification), Onshape (Fundamentals Certification), Fusion 360, Mill, Lathe, MATLAB, Arduino, Java, Microsoft Office Suite

LEADERSHIP & DESIGN EXPERIENCE

Machine Intelligence Laboratory January 2025 – Present
Mechanical Lead in Training

- Designed a landing pad for an autonomous maritime vehicle (NaviGator) for the Robotx competition. Researched and sourced different materials with two other teammates and modeled the landing pad assembly in Fusion 360. Machined components for the landing pad using the bandsaw, drill press, and sheet metal folder.
- Independently designed and constructed a path marker to test an autonomous submarine (SubjuGator) for competition. Followed official design specifications, sourced components, and assembled using a circular saw, PVC cutters, and PVC primer and cement
- Modeled and 3D printed mounts for a Power over Ethernet (PoE) switch and a screw terminal to enable communication and power distribution between electronic subsystems on NaviGator

Generational Relief in Prosthetics (GRiP) September 2025 – Present
Assistive Device Captain

- Organized team meetings, fostered a collaborative culture, and delegated tasks to lead a team of 8 in the development of a custom drumstick/guitar pick prosthetic in SolidWorks for children with upper limb differences
- Mentored GRiP captains by teaching intermediate SolidWorks tools and leadership strategies
- Communicated with engineers from Medtronics during design reviews; integrated feedback into prototypes
- Improved limb-difference accessibility of toys by soldering large buttons during GRiP's "Adaptathon" event

Pawsthetics March 2025 – Present
CAD Design Co-Captain

- Modeled a custom-fit, full leg prosthetic in SolidWorks using a 3D mesh to aid a 3-legged dog in standing and walking
- Delegated tasks to others and offered feedback on design ideas and modeling techniques
- Assisted in testing out a goat prosthetic, taking measurements, and making edits to the CAD model

STEPUP Engineering Program June 2024 – Present

- Participated in numerous academic and professional workshops and toured several engineering facilities
- Created a 3D-printed smart lamp using Onshape and Arduino that adjusted brightness with ambient light

Designathon Competition October 2024

- Won first-place in a 48-hour team competition by designing a CAD model of congestive heart failure that simulated blood flow using pumps and valves
- Delivered a technical report and video presentation explaining the model using Microsoft Word and PowerPoint

PERSONAL PROJECTS

Designed and 3D printed French horn pencil clips, keychains, a container for a bike valve adaptor, a Christmas tree star topper, lithophane lamp shades, a jewelry box and other items using calipers, SolidWorks, Fusion 360 and Cura Slicer

AWARDS & ACHIEVEMENTS

First Place – Designathon Competition October 2024
Rhonda Holt STEPUP Scholarship August 2024
National Merit Scholar / Benacquisto Scholarship Recipient May 2024