Abigail Paulus

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Ambitious, detail-oriented mechanical engineering student focused on drafting, aspiring to be a design engineer

Education

Bachelor of Science in Mechanical Engineering | 3.66 GPA   May 2027
Florida Atlantic University | Boca Raton, FL
Web Development Certification | 4.0 GPA   June 2025
Atlantic Technical College | Coconut Creek, FL

Skills & Qualifications

SolidWorks, SolidWorks PDM, MATLAB, SYSPRO ERP, SketchUp, 3D Printing, Soldering, GitHub, Inkscape, Adobe Dreamweaver
Certifications: AutoCAD, Inventor, Fusion360; Excel, Word, PowerPoint; JavaScript, HTML & CSS; Photoshop; TestOut IT

Experience

Mechanical CAD Engineer Intern | Q'Straint   June – July 2023

- Authored 6 pages of instruction manual, utilizing Word, for backrest replacement on Quantum (fully automatic wheelchair restraint system), also serving as template for similar components across the product line
- Developed HTML, CSS, JavaScript based website, replicating McMaster Carr search, efficiently organizing/filtering 150+ small hardware parts in bulk, in effort to use existing inventory to reduce cost, demonstrating web development proficiency
- Updated 10+ outdated technical drawings to match current standards, replacing parts to use existing inventory, reducing cost
- Edited and enhanced 16 pages of introductory handbook in OneNote, offering valuable insight for new engineers joining Q'Straint, facilitating smoother onboarding process

                                                                                                             June-Aug 2024

- Drafted Quantum service book, combining existing, increasing efficiency of technicians, reduce cost, and improve convenience
- Designed metal support brackets for in-house production using SolidWorks's sheet metal fabrication tool and design intent
- Tracked current inventory parts, finalized drawings, and fulfilled work orders, ensuring seamless communication and coordination between mentors and departments through collaboration
- Improved development of hardware sorting website by enhancing UX/UI, optimizing code, host on GitHub with plans to host on SQL and code revamped to PHP

Programing Teacher | Code/Art   Feb 2024 – Present

- Instruct 10+ coders in range of languages and programs in 1-2 hour lesson: Scratch, p5.js, Tinkercad, JavaScript, HTML/CSS
- Communicate and collaborate with fellow leads and program manager, completing weekly reports addressing questions
- Verify the comprehension of lessons, facilitate attendance, and establish secure and supportive space for coders to thrive

STEM Tutor | Code Ninjas   Sept 2023 – Feb 2024

- Used Scratch Jr. and MakeCode Arcade to introduce coding concepts to over 12 students, ages 5 and up
- Monitored, assessed student's progress, ensuring communication with parents daily, providing insight into lessons taught
- Established and maintained enjoyable, structured learning environment, fostering a positive educational experience

Projects

Blind Spot Sensor for Motorcycle/Bicycle Team Lead   2024

Modular system for bikes to detect when a car is passing in rider's blind-spot, vibrating a motor on the helmet
- Developed a concept and project plans based of using existing components from premade basic kit
- Designed in Fusion360 to create/produce 4 prototypes using 3D printing, ensuring proper fit of hardware components
- Assigned roles for 3 team members to distribute work evenly through positions of designer, assembler, and technical writer

Teacher's Lounge Bar-top Manager   2023

Custom designed bar made for teacher's lounge, used for serving during culinary service
- Used SketchUp to design preliminary plans and develop a mockup, ensuring the design matches the concept of the director
- Organized plans for 4 team members to use while cutting and assembling the materials also working within $1000 budget
- Increased sales of culinary department by $150 through creating a more appealing display case stand, encouraging orders

Accomplishments & Awards

Outstanding Achievement Award for Engineering   2022-2024
Appointed President of Engineering Club   2023-2024

Extracurricular Activities

Active Membership: American Society of Mechanical Engineers, National Society of Black Engineers, Women in Engineering and Computer Science, Society of Women in Engineering, Society of Hispanic Professional Engineers, Alpha Omega Epsilon Sorority