Abigail Paulus

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Education

Bachelor of Science in Mechanical Engineering   Dec 2027
Florida Atlantic University | Boca Raton, FL

Skills & Qualifications

CAD: SolidWorks, AutoCAD, Inventor, Fusion360, SketchUp | Programing: MATLAB, JavaScript, HTML & CSS, GitHub, Adobe Dreamweaver | Business: Excel, Word, PowerPoint, SolidWorks PDM, SYSPRO ERP | Design: Adobe Photoshop, Figma, Inkscape

Experience

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

Mechanical Engineer Intern | Q'Straint   June 2024 – 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, adding features to improve communication between departments

CAD Engineer Intern | Q'Straint   June 2023 – 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– Updated 10+ outdated technical drawings to match current standards, replacing parts to use existing inventory, reducing cost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

Projects

Team Lead | Blind Spot Sensor for Motorcycle/Bicycle   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 Arduino and 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

Project Manager | Teacher's Lounge Bar-top   2023
– Custom designed bar made for teacher's lounge, used for serving during lunch hour 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

Leadership Experience

Secretary | American Society of Mechanical Engineers (ASME)   2025 - Present
– Compose professional emails to send out to over 200 members about meetings, Industry tours, guest speakers, and workshops
– Maintain member point system in Google sheets, recording attendance of members and tracking who are most active.
– Collaborate with other executive board members to enhance the club and retain membership

Academic/Professional Chair | Alpha Omega Epsilon Engineering Sorority (AΩE)   2025 - Present
– Lead at least three professional or academic related events for members in and outside of sorority each semester
– Maintain communal library, organizing donated books, supplies, and any other school related materials

Volunteer Coach | Coral Springs Youth Soccer   2021 – Present
– Teach rules of soccer to 6-9 year olds, some who never played, and practice tactics for certain plays, e.g. free kicks/corner kicks
– Plan out practices with other coaches to develop specific soccer skills, improving from weaknesses from previous games
– Manage players that focus on certain areas, such as defensive or offensive play, or goalkeeping

President/Vice President | Southeastern Consortium for Minorities in Engineering (SECME)   2022 – 2024
– Communicate with club sponsor to plan events, including engineering competition with 4 participating local high schools
– Help organize trip to local elementary school to teach 10 kids about basics of robotics and programing using Lego Mindstorm
– Facilitate projects with other clubs

Active Club Membership: Society of Women in Engineering, National Society of Black Engineers, Society of Hispanic Professional Engineers, Women in Engineering and Computer Science, Girls Who Code, American Society of Civil Engineers