

JASON ROSEN, Product Design Engineer

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EDUCATION

The College of New Jersey

May 2022

Mechanical Engineering (Bachelor of Science)

Relevant Coursework: *Mechanical Analysis, Mechanical Design, Control Systems, Vibration Analysis, Material Science, Heat and Mass Transfer, Heat Transfer, Fluid Mechanics, Thermodynamics, Assembly & Component Design*

RELEVANT EXPERIENCE

Consulting/Contract - Mechanical Engineer & Product Design Engineer

May 2023 - Present

Open-Quantum.org - Quantum Magneto-Optical Trap (Open Source) - Mechanical Engineer

- Designed an SLA 3D-printed flexure for a MOT atomic cooling mechanism. Reduced cost down by 8%
- Developed a 3d printable three-point kinematic mount to finetune a grating resolution to 0.0005°

Vivesense Inc. - XYZ Micropositioning Flexure Mechanical Design - Product Design Engineer

- Designed an injection molded flexure microscope stage sed for consumers to measure sperm fertility
- Prototyped using SLA 3d printing, reduced bending moment by 93%; Increased test accuracy by 16%
- Met a transmission ratio of 1:8 while keeping material costs under \$0.006 per unit, FEA simulated

Bento-Box Charms - Modular Charm Bracelet - Product Design Engineer

- Utilized Solidworks and SLA 3D printing for rapid iteration of early-stage prototypes for user testing
- Led cross-functional design reviews with Fortune 500 suppliers to produce die-casted prototypes
- Developed documentation to keep track of 35 iteration progressions to produce a final prototype
- Applied DFM principles in material selection and process optimization to reduce unit costs by 38%

Swope Design Solutions - Mechanical Engineering Intern

October 2022 - May 2023

- Led procurement with a Fortune 500 supplier to streamline an order of \$400K worth of parts
- Followed ANSI Y14. 5 standards to fabricate 85 parts using a manual lathe and mill, saving ~\$150k
- Responsible engineer for injecting and inspecting 0.5mm tolerance silicone seals for surgical robots
- 3D printed injection molds for an easy-to-use laryngeal intubation device to reduce failure rate by 40%
- Operated in-house prototyping tools to build functional parts from polymers, glass, foams, and metals

Hardesty & Hanover - Mechanical Engineering Intern

Summers 2018 & 2019

- Designed and fabricated an electromechanical 3D printer filament detector that stopped a print when the printer ran out of filament. Saved \$18,000 annually through loss of material and time
- Developed a webpage using JavaScript, CSS, & HTML to monitor and interact with the 3d printer farm
- Automated company-wide procurement spreadsheet collectively saving senior engineers 200 hrs/month

SKILLS & INTERESTS

CAD & Simulation: SolidWorks 2024, Autodesk Inventor 2024, ANSYS Workbench 2024

Fabrication: Manual Lathe, Manual Mill, 3D Printing (FDM, SLA, SLS), Laser Cutting, General Hand Tools

Hobbies & Interests: Active Theta Tau & SHPE members, Rapid Prototyping, Dancing, Backpacking, Baking

CERTIFICATIONS

Certified SOLIDWORKS Expert in Mechanical Design

May 2024

Certified SOLIDWORKS Professional in Sheet Metal Design

Mar 2024

Certified SOLIDWORKS Professional in Drawing Tools

Mar 2024

Certified SOLIDWORKS Professional in Mold Design

Feb 2024

Certified SOLIDWORKS Professional in Surface Modeling

Feb 2024

Certified SOLIDWORKS Associate in Additive Manufacturing

Dec 2023

Fundamentals of Engineering exam (FE)

May 2022