Zhigang (Sam) Lin

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OBJECTIVE

A passionate and creative engineer with an inclination toward problem-solving and product development actively seeking opportunities to learn and implement mechanical engineering principles and methodologies in the medical device industry.

EDUCATION

Duke University Pratt School of Engineering | *Durham NC* **August 2022 - December 2023**

Master of Science | Biomedical Engineering | GPA: 3.5

- *Relevant courses: Advanced Design & Manufacture, Design Health, Medical Software Design, Intro to Medical Robotic Surgery Technologies, Signal Processing & Applied Math, Medical Electric Equipment*

University of Cincinnati College of Engineering and Applied Science | *Cincinnati, OH* **June 2017 - June 2022**

Bachelor of Science | Mechanical Engineering | Joint Co-op Institute (JCI) | GPA: 3.6

- *Relevant courses: Model/Sim Multiphysics Systems, Manufacturing Processes, Thermodynamics, Fluid Mechanics, Solid Mechanics, System Dynamics & Vibrations, Signals/systems & control, Circuits & Sensing*

SKILLS

Prototyping | Mechanical Design | SolidWorks | Fusion 360 | MATLAB | FEA | NX | Autodesk Inventor | 3D slicer | KiCAD | Python | C | 3D Printing | Injection Molding | Laser cutting | Sheet Metal Design |Patent research | Nordic Board: nRF52833 DK | FMEA | Project management | Risk Management | Microsoft Project | Wet lab skill | Reimbursement strategies |

EXPERIENCE

Mechanical Engineer Product Management | *Enson Group INC., Cincinnati, OH* **April 2024 - Present**

- Implement inspection procedures and execute root cause analysis to assess production roadblocks
- Maintain and restore various warehouse equipment by conducting preventive and corrective maintenance
- Strategize and manage the warehouse by procurement of goods and building relations with vendors and other stakeholders

Research Assistant | *IZATT'S LAB Duke University, Durham, NC* **January 2023 – December 2023**

- Designed the foot panel hardware for MIOCT system to gather live sectional views of the eye during surgery
- Gathered user needs by reverse engineering market competitor products and based on feedback on the initial prototype
- Iterated the prototype design based on user performance assessments and usability evaluation
- Developed and validated an ergonomical foot pedal design with positive response from surgeons

Mechanical Engineer Intern | *Tofflon Group Co. Ltd, Shanghai, China* **January 2020 – April 2020**, **September 2020 – December 2020**

- Developed customized designs of various Tofflon products based on user requirements to help manufacture pharmaceuticals
- Sketched CAD designs for the production of customized products like freeze-dryer machines
- Built models and demos to help sales pitches for various pharmaceutical companies
- Prototyped and assembled 3D models for customer demonstrations

PROJECTS

Improved Insertion Device for Central-Line Insertions Process | *Duke University, Durham, NC* **January 2023 – December 2023**

- Optimized the IV insertion process by innovating a procedure to combine multiple steps into a single action
- Led focused brainstorming sessions for design generation and ideation of potential solutions
- Designed mechanism to adjust needle length for various patient populations, including pediatrics, adults, and obese adults
- Executed design validation studies using the prototypes with multiple clinicians to assess the process and usability impact
- Collaborated with a cross-functional team to build a business plan, regulatory clearance strategy, and assessing the IP landscape

Pediatric SpO_2 Clip | *Duke University, Durham, NC* **October 2022 – December 2022**

- Designed a specialized clip to improve the pediatric experience and device acceptance, with a patient-friendly probe cover
- Conducted FEA analysis to understand the stress concentration areas and reduce it by substituting with other materials

Wear Tester for PTFE Seal Material (sponsored by Emerson) | *University of Cincinnati, Cincinnati, OH* **August 2021 – May 2022**

- Brainstormed innovative concepts for assessing PTFE material used in compressors manufactured by Emerson
- Designed and iterated prototypes using SolidWorks for developing test fixtures
- Collected data via multiple sensors to measure parameters impacting the degradation of the PTFE material

CERTIFICATION

Medical Device Design Certification | Lean Six Sigma Yellow Belt Certification