Fei-Ru Sie (Lucy)

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Product Design | SolidWorks | Mechanical Design | 3D Printing | Mechanical Testing | Thermal Analysis | Research & Development | Product Testing | Project Development | Root Cause Analysis | Troubleshooting

Mechanical Design Engineer / Mechanical Engineer

Education:

Saint Louis University, Saint Louis, MO **May 2022**

- Master of Aerospace and Mechanical Engineering

Hwa Hsia University of Technology, New Taipei City, Taiwan **May 2011**

- Bachelor of Science in Mechanical Engineering

Technical Skills:

- **Computer-Aided Design (CAD):** Creo PTC (Pro E), AutoCAD, SOLIDWORKS, CATIA, Autodesk
- **Computer-Aided Engineering (CAE):** SOLIDWORKS Simulation
- **Technical Ability:** Engineering Design, Circuit Building, Power Tool handling, 3D Printing, Simulations, LABVIEW
- **Management skills:** Product validation, Project Coordination, Team management, Vendor Handling.
- **Hardware:** Machining-Mills, Lathes, CNCs, Angle Grinders, Arc welders, Bandsaws, Drill presses, Grinders, Chop saws, Basic Hand tools, Welding Tools, Sheet metal fabrication
- **Expertise Area:** Mechanical system Design, Computation Fluid Dynamics (CFD), Computer-Aided Design, Production Process, Material Selection, GD&T ASME Y14.5, Sheet Metal & Plastics Design.
- **Interpersonal Skills:** Strong Internet Research, Excellent Verbal, Written and Quantitative Skills, Time Management and Prioritization Abilities, Effective Presentation, Team Player, Leadership and Negotiation Skills.

Work Experience

Teaching Assistant **Spring 2022- Fall 2022**

Gas Dynamics, Saint Louis University, Saint Louis, MO

- Worked with students in class, monitored examinations, and helped students to solve assignment problems.
- Developed teaching skills and a deeper understanding of the discipline/content.

Welcome Desk Worker **Fall 2021- Fall 2022**

INTO Saint Louis University, Saint Louis, MO

- Communicate with customers by expressing own ideas and options clearly, concisely, and rationally. Assign shifts to employees.

Store Clerk **Feb 2016- Feb 2018**

Rock War Game Corporation, New Taipei City, Taiwan

- Performed transaction reminders to customers by the digital platform & managed listed products online by digital platforms.
- Communicated with about 100 customers every day via phone and email.
- Achieved financial objectives by expanding sales traffic through market research to optimize profitability.

Engineering Programmer **June 2007 – Aug 2015**

Shin-Shing Machine Corporation, New Taipei City, Taiwan

- Programmed in G-codes on Computer Numerical Control (CNC) mechanical, modified and tested codes, and collaborated with colleagues to promote the codes.
- Evaluated mechanical and electromechanical products and systems, confirming their capabilities by testing methods, taking measurements, detecting malfunctions, troubleshooting, etc.
- Assured the quality of systems and products by designing testing programs; adjusted and reprogramed to meet the safety requirements.
- Operated traditional mechanical parts production machines such as Polishing Machine, High Speed Lathe Machine, Bench type Grinding Machine, Tool & Cutter Grinding Machine, Bench Drilling Machine, and Circular Sawing Machine.

Academic Projects

Turbine and Turbofan Design Project: High Altitude Long Endurance (HALE) Unmanned Aerial Vehicle (UAV) Design Project.

- Determined a suitable engine cycle for HALE UAV, programming in MATLAB, using engineering method, problem-solving skills, and iteration to develop project design.

Computation Fluid Dynamics (CFD) Class Project: Supersonic flow Project.

- Programmed in MATLAB to design to compute the supersonic flow based on different methods.
- Modified and accumulated all the data and collaborate with team members to promote the codes.

Introduction to Turbulence Class Project: Three CFD simulations of a backward-facing step geometry.

- Simulated a turbulent flow by using three different turbulence models, comparing results, and discussing the differences in SC/Tetra.