JESSIE LIU

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SUMMARY

A hard-working engineer passionate about design, rapid-prototyping, and inspiring the next generation in STEM

WORK EXPERIENCE

Graduate Research Assistant
Georgia Institute of Technology EPICS Lab Aug. 2021- May 2023

EPICS (Enhanced Preparation for Intelligent Cybermanufacturing Systems)
- Investigated internal/external factors and gender effects on team dynamics and task allocation in hands-on STEM design class environments
- Assisted in laser powder bed fusion (LPBF) additive manufacturing research & investigating ultrasonic cleaning post-processing methods

Innovation Intern
Steelcase Inc. – Innovation Management Office May – Dec. 2022

- Explored the design features and PLM capabilities within Creo and Windchill to showcase the value of connected data to various company leaders and departments
- Redesigning die-cast zinc-aluminum alloy part for injection molded glass filled nylon to yield potential cost savings of over $1 million/year
- Worked on an interdisciplinary team of interns & employees to prototype a digital quality inspection log web application exercising the digital thread and connected data

ME 2110 UTA, GTA, Head TA
Georgia Institute of Technology Jan. 2020 – May 2022

(Undergraduate Teaching Assistant & Graduate Teaching Assistant)
- Mentored, taught, and supervised sophomore-level students on design principles, fabrication tools, rapid prototyping methods, mechatronics, industrial safety, and Arduino programming
- Led a staff of 25 persons on fabrication space management, including resource and logistics management and curriculum development for laboratory course for 200+ undergraduate students

GA BEST Volunteer, Co-Director, Hub Coordinator
Georgia BEST Robotics Planning Committee Jun. 2017 – Present

BEST (Boosting Engineering, Science, and Technology)
- Organizing, planning, and hosting the annual Georgia BEST Robotics competition to encourage STEM participation and innovation within middle and high school students
- Coordinating over 50+ volunteers at a statewide robotics competition
- Coordinating and directing meetings, communicating with volunteers and sponsors, managing logistics to ensure a smooth, fair, fun, and educational event for all
- Managing communications with ~20 teams (coaches, parents, and students)

Mechanical Engineering Co-Op
Landis+Gyr Jan. 2018 – Aug. 2019

- Created CAD models, engineering models, and assembly drawings of company products
- Designed a passive insertion tool to be used on product assembly lines and various 3D printed tools and fixtures for internal use
- Soldered and built fixtures in lab, assembled products for and assisted with in-house testing

EDUCATION

Georgia Institute of Technology
Atlanta, GA

B.S. Mechanical Engineering
Minor in Industrial Design
August 2021—GPA 3.73

M.S. Mechanical Engineering (Thesis Route)
August 2023—GPA 3.83

SKILLS

Soft Skills
Leadership
Self-Directed Learning
Problem Solving
Self-Management
Highly Organized
Proficient Verbal & Written Communicator

Technical Skills
Creo Parametric/Simulate
Windchill
Rapid Prototyping & Machining
Mechatronics
Siemens NX (CAD & FEA)
SolidWorks
MATLAB
Arduino/MSP432 (C++&C)
Python

PROJECTS

Block Stacking Robot Arm
- Block stacking robot arm using trajectory planning techniques and Newton-Raphson with MATLAB and Arduino

Line Following Robot with MSP432
- PID-controlled line-following robot using TI MSP432 for ME6705 Mechatronics

Gender Equity in Makerspaces
- 1st Place in the Student Innovation Competition-Promoting Equity and Access (SICPEA)
- Research in self-efficacy and curriculum development in engineering for policy change proposals to increase gender equity and accessibility in maker spaces

Automatic Pill Dispenser Prototype for People with Mild Cognitive Impairment (MCI)
- Interviewed participants with MCI through interactive workshops and co-design sessions for needfinding
- Designed, CAD, laser cut, and used Arduino to create a prototype that reminds and dispenses pills each day

Lapiplasty® Surgery Alignment Tool
- Worked with Treace Medical Concepts Inc. to research, design, CAD, and FEA for a bunion correction surgery tool
- Alignment tool designed to reduce drill/screw collision rates during surgery

References available upon request.