

# JESSIE LIU

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

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## WORK EXPERIENCE

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

- EPICS (Enhanced Preparation for Intelligent Cybermanufacturing Systems)
- Investigating internal/external factors and gender effects on team dynamics and task allocation in hands-on STEM design class environments
  - Assisting 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)  
Aug 2023—GPA 3.78

## SKILLS

Soft Skills	Technical Skills
Leadership	Creo Parametric/Simulate
Self-Directed Learning	Windchill
Problem Solving	Rapid Prototyping & Machining
Self-Management	Mechatronics
Highly Organized	Siemens NX (CAD & FEA)
Proficient Verbal & Written Communicator	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.