LAUREN ZHOU

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, College of Engineering — Atlanta, Georgia

BS/MS in Mechanical Engineering — B.S. December 2021, Expected M.S. May 2023

- GPA: 3.85
- Awards: Dean's List (7 consecutive semesters), Faculty Honors (4 Semesters)

EXPERIENCE

Bio-Interfaced Translational Nanoengineering Research Group — Atlanta, Georgia

Undergraduate Student Researcher — January 2021 – Present

- Sponsored by the Children's Healthcare of Atlanta to develop a flexible, wearable, bandage-like health monitoring device for pediatric patients.
- Developing a bone-conduction binaural beat therapy device to reduce short term stress.

EcoCAR Mobility Challenge — Atlanta, Georgia

Propulsion Systems Integration Team Member, Training and Safety Representative — January 2019 – Present

A four-year project sponsored by the U.S. Department of Energy to design and execute a hybrid drivetrain conversion on a 2019 Chevrolet Blazer.

- Developing safety requirements for the hybrid vehicle powertrain with STPA, FTA, HAZOP, and DFMEA analysis techniques.
- Design and fabricate mounts and various other parts for the vehicle, including the vehicle controller bracket using FEA techniques with Siemen's NX and topology optimization with Altair Inspire.
- Lead welder: personally welded the custom A/C system and train members interested in welding.
- Designing the Human-Machine Interface which enhances and mitigates the features created for the updated drivetrain and intended users.

Ford Motor Company — Dearborn, Michigan (Remote)

Functional Safety Engineering Intern (CCC Feature Group) — May 2021 – August 2021

- Support the development of an ASIL C and an ASIL QM rated features' boundaries, use cases, operating modes, and logical architectures.
- Created item definition, Hazard Analysis and Risk Assessment (HARA), Functional Safety Concept (FSC), and Safety Requirement Specification (SRS) to the ISO 26262 automotive functional safety industry standard.
- Utilized SysML to model both features' HARA in the MagicDraw collaborative environment.

CAE Systems Optimization Engineering Intern — June 2020 - August 2020

- Created a method with MATLAB to estimate vehicle mass using connected vehicle signal data retrieved from Ford's big data databases with SQL queries.
- Combined Excel and modeFrontier to generate a model that can parametrically designate stiffness target for the vehicle suspension system.
- Developed a method to iterate and optimize a parametric bracket concept, which will be used by Ford's Systems Optimization team to efficiently optimize future bracket designs.
- Used Altair Inspire and modeFrontier to conduct topographic and parametric optimization on a pump mount for the Mach-E.

Yellow Jacket Roller Derby — Atlanta, Georgia

President — April 2021 – Present

- General supervision of the affairs of YJRD, organizing club events, competitions, and executive meetings.
- Increased membership by 140%, fundraised $2000, increased social media presence by 25%

Internal Vice President — April 2020 – April 2021

- Act as the main source of contact between the executive board and the members of YJRD.

The Materials Innovation & Learning Laboratory (The MILL) — Atlanta, Georgia

Processing Team Member — January 2019 - May 2019

- Experience with manipulating Hyrel 3D printers (System 30M and Engine SR models) to print with various materials (PLA, ABS, ASA, and metal/wood/carbon filled filaments).

SKILLS

Languages: Mandarin – conversational, Spanish – working proficiency, French – limited proficiency

Skills: MATLAB, SolidWorks, AutoCAD Inventor, Siemens NX, Altair Inspire, modeFrontier, SysML, Functional Safety Analysis, ImageJ, EES, PCB design (KiCAD), Segger Embedded Studio, LabView, Microsoft Office, Leadership, Public Speaking

Fabrication: Additive Manufacturing, CNC Machining, Electrical Soldering, Microscopic Soldering, Circuit and PCB Design, Aluminum and Steel TIG Stick Welding, Manual Mill, Lathe, Basic Woodworking