# liriam Lerner

(510)316-0829 | mlerner5@tulane.edu | miriamlerner.com | Oakland, CA ~ New Orleans, LA

#### **EDUCATION**

**Tulane University** New Orleans, LA **Graduation:** Spring 2026

Bachelor of Science and Engineering: Engineering Physics, ABET Accreditation

Minors: Mechanical Engineering **GPA:** 3.844

Relevant Coursework: Thermodynamics, Dynamics, Machine Design, Photonic Materials and Devices, Fluid Mechanics

Activities: Theta Tau, SWE, Tulane Theater Department, Makers and Robotics Society, Newcomb Dance Company, WTUL Progressive Radio

Honors: Honors Scholars Program, Merit Scholarship(\$18,000 per year), Newcomb-Tulane College Dean's List

#### PROFESSIONAL EXPERIENCE

### Tulane University Makerspace - Fabrication Technician and CNC Mill Specialist

August 2023 – Present

- Created a welcoming environment and assisted with Makerspace events. Performed maintenance of tools and machines
- Guided users through an introduction of rapid prototyping using laser cutters, 3D printers, sewing machines, and their software
- Maintained the CNC Mill daily and led trainings for all Tulane affiliates that use this machine

## Tulane University - Escarra Photonic Materials and Devices Lab - Undergraduate Research Assistant

August 2024 – Present

- Assisted with developing techniques and structures for CVD growth and design of monolayer heterostructures
- Synthesized 2D monolayers of MoS2 with a CVD(chemical vapor deposition) machine and conducted testing for ideal growth
- Characterized photoluminescence and absorbance properties of 2D semiconductor samples through spectroscopy

## WTUL Progressive Radio Station - Technical Director and DJ

May 2024 – Present

- Responsible for the technical aspects of a physical-media radio station. Stayed on-call 24/7 and kept the station on air
- Fixed equipment, restarted our webstream weekly, refined a backup auto-system, and answered questions for the general community

## Camp Kee Tov of Congregation Beth El - Program Director (2024, 2025), Senior Counselor (2023)

May 2023 – August 2025

- Supervised a team of 15 counselors and 50 middle schoolers. Led daily meetings, gave notes, and wrote evaluations
- Led daily programming and coordinated logistics of camping trips, field trips, and events for charity
- Taught social-emotional skills and the values of kehilah kedoshah(sacred community), simcha(joy), and nedivut(generosity)

#### LEADERSHIP EXPERIENCE

## **Tulane Society of Women Engineers Executive Board**

President (2025-2026), Vice President; Outreach Coordinator; Freshman Representative

September 2022 - Present

- Ran a 10-person Executive board and organized social, professional, and outreach-based events for our chapter of 200 students
- Pioneered new outreach events for local high-school and middle-school involvement in STEM, raising over \$1000 in a single event
- Led weekly meetings, managed supply lists, and oversaw the general chapter
- Organized our chapter's yearly SWE panel, featuring 5 industry professionals with diverse backgrounds and experiences
- Led activities and competitions for Tulane's STEM educational events for 5th-7th graders, attended by 200+ students

## Theta Tau Professional Engineering Fraternity Executive Board - Scribe (2025-2026), Member

September 2022 - Present

Kept and updated record of all existing members, alumni, and prospective members, took notes for all general meetings

## **PROJECTS**

#### Capstone Team Design | Hybrid Concentrator Photovoltaic-Thermal Receiver - Thermal Lead

August 2025 - Present

- Worked on the reiteration, design, and testing of a novel hybrid solar concentrator system in a team of five
- Led the redesign of thermal testing simulations in COMSOL to ensure efficiency, quality, and robustness
- Tested and refined the manufacturing and machining processes of the thermal receiver

#### ErGO!

August 2023 - December 2023

- Designed, constructed, and tested an affordable, portable, comfortable, and ergonomic chair
- Used CAD to model, run FEA testing, and rapid prototype elements of the design
- Built 2 prototypes, both of which displayed human-centered design and durability over multiple months

#### The Road Not Taken - A Choose Your Own Adventure Game

March 2024 - May 2024

Wrote, designed, and implemented a complex text-based role-playing game in MATLAB with over 25 paths and outcomes

### **SKILLS**

Technical: CNC Mill and Lathe, Waterjet, Chemical Vapor Deposition, Wood and Metal Shop Tools, CPR and First Aid Certification Software: COMSOL, MATLAB, Python, CAD software, Vector Software, Procreate, Orcaslicer, QLab, ETC Systems

#### PERSONAL INTERESTS

Knitting, Crochet, Skiing, Modern Dance, Guitar, Piano, Alto Saxophone, Theater Design, Carpentry, Hiking, Backpacking, Cooking