Isidora Domingo Mack

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EDUCATION

Bachelor of Mechanical Engineering   **May 2023**

College of Science and Engineering, University of Minnesota - Twin Cities
Graduated Magna Cum Laude, GPA: 3.82
Minors: Product Design and Interdisciplinary Design
Coursework: Design for Manufacturing, C++ Coding, CAD and Rendering, System Dynamics & Control

SKILLS

Software: CAD (Creo, SolidWorks, OnShape), Adobe Suite, Revit
Coding: MATLAB, C++

WORK EXPERIENCE

LEO A DALY / Fire Protection EIT   **Jun. 2023 – Present**

- Design fire suppression and notification systems for buildings using Revit.
- Analyze fire protection and life safety code to assess whether building projects meet state and federal standards.
- Assess proposed parts submitted by contractors to ensure they meet design requirements.

Boston Scientific / Design Engineering Intern   **Jun. 2022 – Aug. 2022**

- Performed testing to characterize materials for electrical components on PCBs.
- Designed an antenna holder for the implantable defibrillator device.

Medtronic / Component Engineering Intern   **Jun. 2019 - May 2020**

- Created and managed data used by the engineering team to track design changes in a cardiac device.
- Generated detailed engineering drawings of machined components to be sent to the FDA to review.

RESEARCH EXPERIENCE

Honors Thesis Project   **Sept. 2022 – May 2023**

Design of Active Materials and Structures Lab (DAMSL), University of Minnesota

- Assisted in the design of a non-pneumatic shape memory alloy (SMA) tire by characterizing the behavior of radial structures that support most of the vehicle weight. This was done by performing compression testing on a single Nitinol structure while varying shape and size parameters.
- Created a user-friendly model in MATLAB to predict the deflection and load bearing ability of an entire tire.

Medical Device Design Intern   **May 2021 - Aug. 2021**

Bakken Medical Devices Center - University of Minnesota

- Worked collaboratively with a team to design a device to measure skin fibrosis in lymphedema patients.
- Interviewed medical professionals and patients to improve user experience and performed market research to verify and quantify the need for the product.

Apparel Design Research Assistant   **Sept. 2020 – May 2022**

Wearable Technology Lab (WTL), University of Minnesota

- Worked with a team to create a user interface and focused on integrating microcontrollers and sensors using 3D printing on a personal microclimate garment.
- Created knitted samples of various metal wires to explore the tensile properties for wearables.

Machine Learning Research Assistant   **Jun. 2018 - Aug. 2018**

Carleton College, Northfield, MN

- Worked with a team to create a machine learning program in Python that uses computer vision to detect faces and recognize various emotions in real time.

LEADERSHIP EXPERIENCE

Vice President   **May 2020 – May 2023**

University of Minnesota Robotics

- Hosted education events to teach university students and local children about robotics and engineering paths.
- Lead director meetings, managed the dedicated work space, and appointed students for other leadership positions within the club.