Zach Whalen

9741 WINDING PINES DR. BRIGHTON, MI 48116 ● (810) 923-2571 ● WHALENZ@UMICH.EDU

OBJECTIVE

To understand and discover how mechanical engineering applies to the future of our society while working with a team focused on problem solving and technical solutions.

WORK EXPERIENCE

Renewable Energy Development and Engineering Intern — *DTE Energy, Detroit MI*

JUNE 2021 – AUGUST 2021

- Responsible for Solar Panel quantity projection based on Michigan energy demands, life cycle analysis of these panels, analyzing potential ways to recycle after decommissioning.
- Responsible for mapping and analyzing potential warehouse sites for solar development equipment.
- Responsible for mapping/researching/summarizing causes of avian fatality at solar parks.

Automotive and Aerospace Manufacturing Intern — *DTM Group, Cleveland OH*

DECEMBER 2020 - JANUARY 2021

- Delaware Dynamics - Muncie, IN - Die Casting, CNC Tool Manufacturing and Refurbishment
- Soundwich - Cleveland, OH- Stamping and Die Cutting – Thermal Management
    - Participated in prototype builds on site at customers
    - Operated CMM machine to verify GD&T of heat shields
    - Participated in GD&T training with check gauge review

Dishwasher/Event Worker — *PrimOvations Catering, Ann Arbor MI*

JUNE 2019 - AUGUST 2019

- Responsible for organization and washing of all dishware
- Responsible for setup and teardown of large catering events

EDUCATION

University of Michigan, Ann Arbor MI

AUGUST 2020 - PRESENT

- **Major:** Mechanical Engineering
- **GPA:** 4.00
- **Relevant Coursework:** Team Based Engineering Courses, Programming, Statics, Thermodynamics
- **Honors:** Fall 2020 & Winter 2021 Dean's List, Branstrom Freshman Prize-Top 5% in Freshman Class

OTHER RELEVANT PROJECTS

- X-Ray Diffractometer Part Fixture- Design a precise realignment feature for the X-Ray Diffractometer at General Motors- Previous methods risked sensor damage.
- Server Rack Bracket- Design a bracket to attach to a server rack port box. This bracket needs to secure all loose parts and wires. Selected as one of the top three best designs in Livingston County.
- Autonomous Vehicle- Design, wire, code, and 3D print
- Remote Controlled Robot- Design, build, and test a robot that can deposit various objects into goals of various heights (First engineering project at college).

SKILLS

- Technical Leadership and Communication- ability to lead a design team
- Ability to adapt to new organizations, styles, software, and people while
- Proficient in CAD Design and Layout through Creo Software and Onshape Software
- Introductory C++, Matlab, Python, Arduino, and PLC coding
- Introductory wiring involving Arduino controllers, motors, ultrasonic sensors, etc.

EXTRACURRICULARS

- Tau Beta Pi – Engineering Honor Society (electee)
- American Society of Mechanical Engineers (ASME)- University of Michigan Chapter
- Maize Rage

PERSONAL

Golf, Pick-Up Basketball, Music, Fishing, Driving, Family