

Ry Swaty

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EDUCATION

Michigan Technological University
BS Mechanical Engineering - Pavlis Honors College - GPA: 3.89
Minors - Aerospace Engineering, Business

Houghton, Michigan
Expected Fall 2022

PROFESSIONAL EXPERIENCE

National Renewable Energy Laboratory - Science Undergraduate Laboratory Internship Jun - Aug 2022

- Project co-lead developing Macro Thermogravimetric Analysis (TGA) device for study of biomass decomposition
- Used SolidWorks to design 450 piece assembly of TGA device
- Optimized thermal design by building COMSOL thermal simulations

LightDeck Diagnostics - Process Engineering Internship May - Aug 2021

- Project lead modifying and integrating quality control equipment into bio-chemical manufacturing process
- Utilized the R coding language for analysis and presentation of quality control data
- Designed and fabricated rack system for use in product plasma etching process

Toyota Motor Corporation - Production Engineering Co-op Jan - Apr 2021

- Functioned as project lead designing, fabricating, and tuning door-line equipment
- Served as project co-lead working to reduce assembly line noise by 15 dB to meet OSHA regulation
- Worked with contractors to spec, price, and fabricate equipment design

SWATY X KANDA Camera Lenses - Co-founder and Lead Designer Apr 2020 - May 2021

- Designed and fabricated lens components including lens adapters, threads, aperture discs, and housing
- Evaluated business model through Stanford accelerator course "Idea to Market Entrepreneurship Program"
- Conducted customer research through external testing and evaluation by potential clients

PROJECT EXPERIENCE

Michigan Technological University - Learning Analytics Python Web App May - Jun 2022

- Built a cloud data science platform for learning analytics with Python in 30 hours
- Saves instructors up to 80% of their assessment time for classrooms of 100 students or more
- Implemented a supervised machine learning clustering algorithm to visualize outliers

Michigan Technological University - NASA Lunabotics Competition Lunar Rover Jan 2021 - Present

- Tune and test lunar rover software and communication subsystem
- Design and fabricate lunar regolith excavation system for rover

Michigan Technological University - Luggage Conveyor Belt System Sep - Dec 2020

- Designed luggage conveyor using UGNX and tuned PID response by building simulation in Simcenter Amesim

LEADERSHIP

Engineering Learning Center Sep 2021 - Present

- Work with students to identify and resolve issues with MATLAB and fundamental engineering concepts

Math Learning Center Coach Sep 2019 - May 2022

- Increased student performance through Mathematica examples and individually-tailored learning approaches

SAE Aero Design - President Sep 2019 - Sep 2022

- Pioneered and lead successful technical development and recruiting initiatives

CO-CURRICULAR INVOLVEMENT

- MTEC SmartZone startup accelerator program
- Ridge Roamers Climbing Club - Member
- ConScience Chamber Choir - Bass
- Club Volleyball - Member