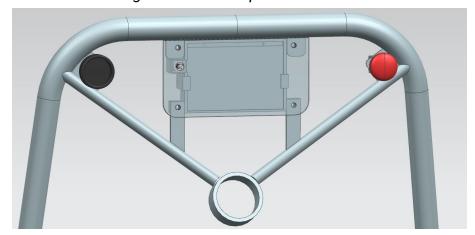
Michigan Electric Racing Dashboard

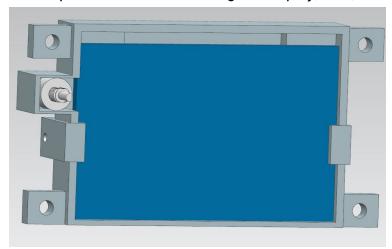
I am currently responsible for designing the dashboard of the next MER racecar. This involves integrating the dashboard controls, display, and electronics in an ergonomic and sturdy package. The highlight of this project is the 3D-printed shockproof and waterproof enclosure which will contain the electronics for the dashboard display. The original, bulkier dashboard (all parts designed in Siemens NX).



The smaller and lighter final concept.

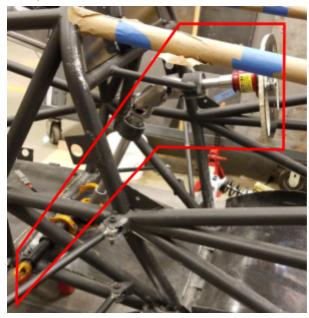


The 3D-printed enclosure holding the display, PCB, and a rotary switch.



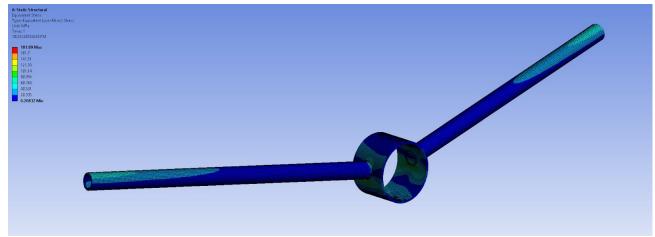
MER Steering System

I was the steering design lead for Michigan Electric Racing's 2019 car. I used Siemens NX to design it, ANSYS to analyze it, and Teamcenter PLM software to manage the CAD. Major changes from the previous year included a lighter and easier to mount steering rack, a double u-joint instead of a bevel gearbox for increased reliability, and tighter manufacturing tolerances thanks to new manufacturing jigs. The final product was under budget, reliable, and contributed to the car's 2nd place finish at the Formula North competition.



MER Steering System ANSYS Simulation

One of the ANSYS simulations that I ran on the components of the steering system to ensure it would not fail. This simulation taught us that while the overall structure would not fail, special care would have to be taken to ensure good welds as that was a likely failure point.



Longboard Project

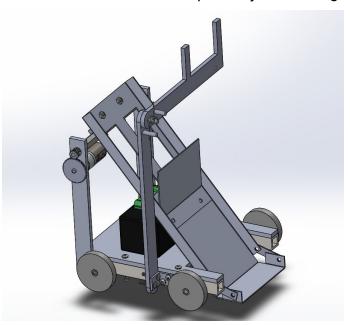
I decided to build my own longboard from scratch in the summer of 2018, both as a fun project as well as a means of transportation between classes. Starting with a sheet of Baltic Birch plywood, I created a deck, assembled the trucks and wheels, and painted it.





ME 250 (Design and Manufacturing I) Robot

My sophomore year design project involved creating a robot for a competitive game in a team of 5 people. 60% of the final CAD design was my work. I also manufactured a number of parts, using tools such as a mill, lathe, and laser cutter. Furthermore, I contributed in a leadership role by scheduling meetings and setting deadlines.





March Madness Predictor

I decided to combine my love for coding and basketball by creating a predictor for March Madness games with Python. A file with teams, basic statistics, and the winner of each matchup is fed in and used to create a model which will pick the winner of matchups fed in from the second file.

```
C:\Users\droha\PycharmProjects\MMP2\Scripts\python.exe C:/Users/droha/Documents/Code/MMP2/Main What file? (data) r64foll.csv

PPG has the largest positive percent difference (56.6979458577%).

PPG difference = 0.566979458577

PG difference = 0.286652303742

FT difference = 0.274983677474

3P% difference = 0.514656992262

What file? (prediction) r16full.csv

Kentucky is more likely to win.

Difference = 0.159877658096

Nevada is more likely to win.

Difference = 0.0533264791213

Gonzaga is more likely to win.

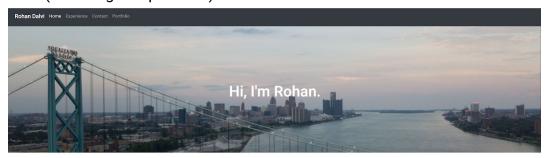
Difference = 0.0760433881643

Michigan is more likely to win.

Difference = 0.0412261264281
```

Personal Website

Using HTML and CSS with Bootstrap, I created a personal website to display my skills and experiences, while furthering my knowledge of HTML and CSS coding. The website features information about my experience, contact information, and examples of my work (including this portfolio).



Who am I?

How can I help you?

I have a varied skillser that I can utilize. I am knowledgeable in a variety of CAD software packages, including Siemens NX + Teamcenter, Solidworks, and Autocad Inventor. Additionally, I have experience with Finite Element Analysis in ANSYS. My background also extends to computer science, as I am familiar with C++ Pyrthon, Matlab, HTML and CSS (which were used to make this website), and GIL Furthermore, my experience have provided me with a number of intangible skills. I can lead, work with, and communicate effectively to diverse groups of people.

Experience









Michigan Electric Racing is a student-led design team that competes in SAE Formula Electric. Currently, I am working on creating the car's dashboard and integrating the dashboard electronics. In the past, I lead the design of the steering system. Through this role. I have accomplished a number of tasks such as using MATIAB to analyze the data for Ackerman angle calculations, using Semens INX to CAD our steering system, and using ANSYS to ensure its strength. Additionally, I have learned a great deal about effective leadership and commiscation. Furthermore, I have loved motorsports since I was a small child and MER has given me the opportunity to be a part of that world.

Northville High School Aerospace Club was founded in 2014 to provide opportunities for students to explore the field of aerospace with handson projects. I was one of the cofounders of this club, and selbered as president. My experiences ranged from designing, assembling, and helping launch as wheth balloon to acquiring a historic project aircraft and a hangar to store it in. I also held multiple internal responsibilities, such as presenting weekly on the state of the club and leading our social media effort, primairly through the use of Tivitter Analytics.

The Village Workshop is a DIY space in my hometown of Northville, Michigan where people can come in and work on their personal projects. I completed an internship here which gave me a solid foundation in real-world design and manufacturing. For the workshop, I designed, machined, and painted a sign to advertise lumber for sale using Audosek Inventor and a CNR machine. I also anchined and assembled a cart for patrons to use to move phywood around the workshop. This experience was a great introduction to a workshop environment and I was able to learn how to operate basic workshop machinery and power tools efficiently and safely.

See My Work









Stock Tracker

After learning how to use APIs in a class at college, I was eager to apply them in a coding project of my own. This project uses the Alpha Vantage financial data API to obtain information about the price for a given stock and store it in a SQL database. An interactive web app built with Plotly's Dash is used to display the change in price over time.

