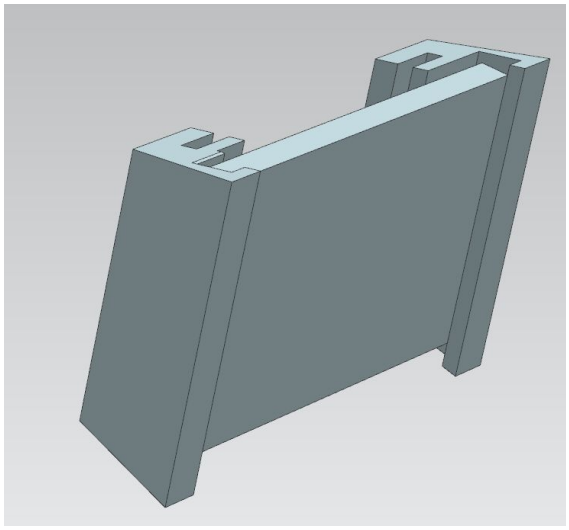
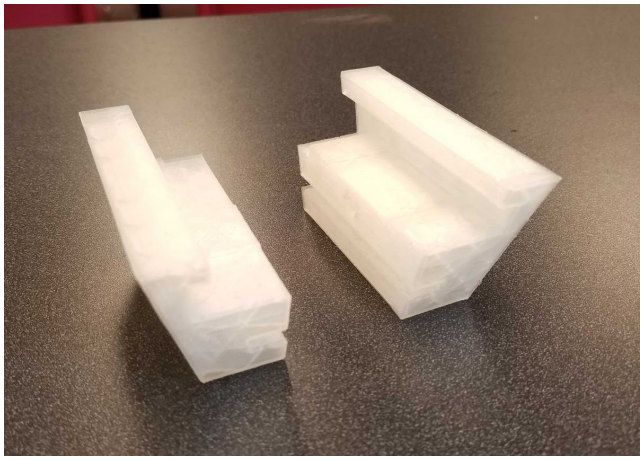
MER Dashboard

3D printed casing to house the dashboard display and its PCB. Shown is the “sandwich” to securely hold the display and PCB. Around this will go a shockproof and waterproof enclosure. The dashboard itself is a carbon fiber plate with multiple controls.



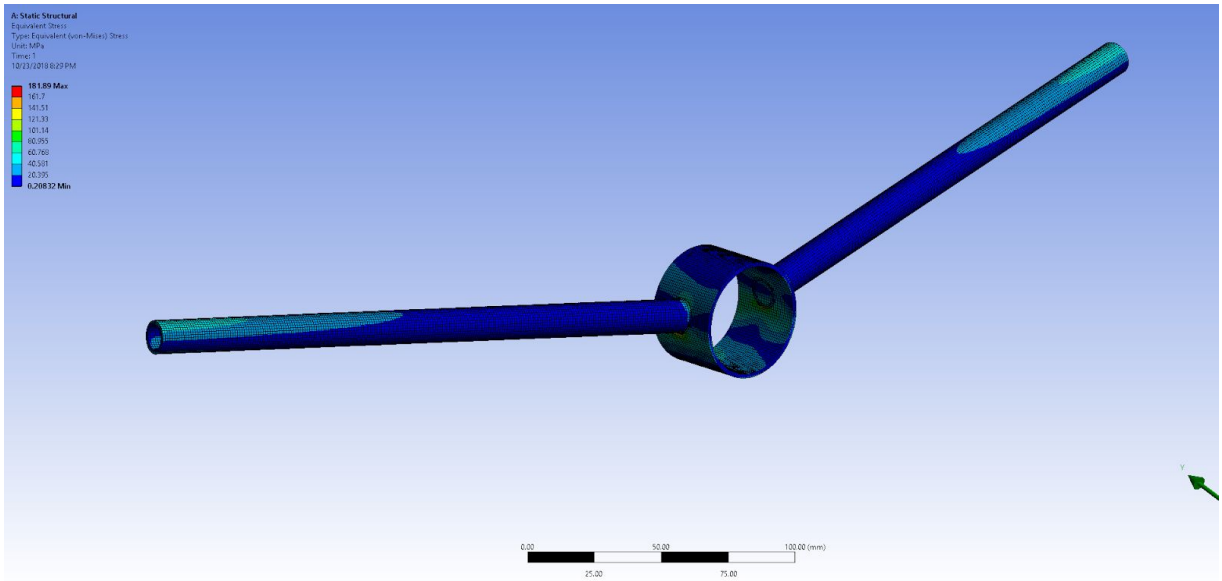


MER Steering System

The steering system I was in charge of designing for MER's 2019 car. I used Siemens NX to design it, ANSYS to analyze it, and Teamcenter PLM software to manage the CAD.

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.



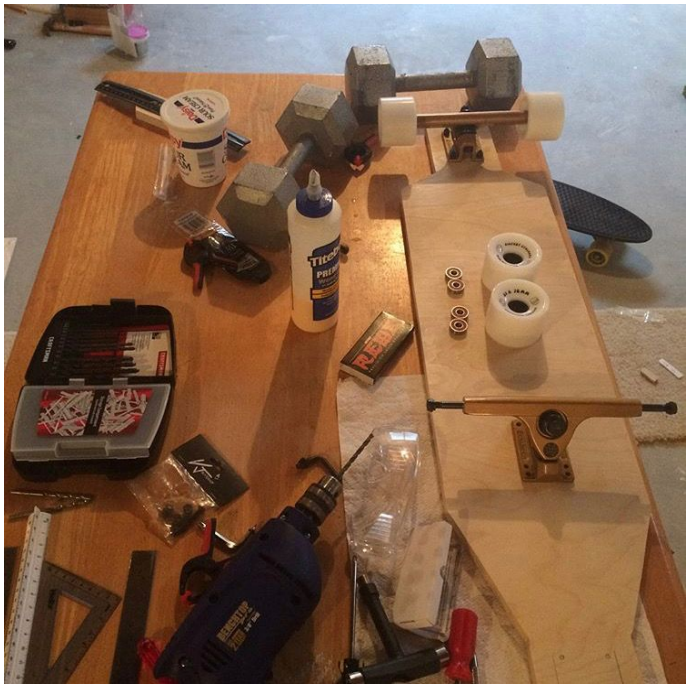
March Madness Code

A snapshot from the output of my March Madness predictor. 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)r64full.csv

PPG has the largest positive percent difference (56.6979458577%).
PPG difference = 0.566979458577
FG 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

Villanova is more likely to win.
Difference = 0.166336617156
```

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 Robot

The robot I worked to create as my sophomore year design project in a team of 5 people. 60% of the final CAD design was my work. I also manufactured a number of parts, and contributed in a leadership role as squad leader.