Portfolio of Work:

1) Below is a picture of the (Bronco Space) Bronco Sat-1 cube-sat student lead project that I worked on. It is a 1.5U cubesat that will be the first Space Mission from Cal Poly Pomona whose mission is to test machine learning and artificial intelligence in a CubeSat form factor. My participation included many things such as soldering connectors on the top cap and flight computer of the Flight and Engineering Unit, as well as assisting with testing different parts of the controls system using codePython and RaspberryPi or GrandCentral as a test bed.

2) As well as the bronco sat project I also worked on lab development for Bronco Space. I had a big role in the assembly and testing of our Helmholtz cage which also required me to use a raspberry pi or an Arduino with an accompanying BMX sensor to test the magnetic field being produced. Below on the left is a picture of the fully assembled cage, and on the right is a picture of a singular axis after being wrapped.

3) While working on the Northrop Grumman Collaboration Project under the UAV, Propulsion subteam I assisted with the initial design of a test stand for RC motors to get thrust, Amp, Wattage, and Power readings. After the initial design which just used a kitchen scale to read out thrust I tried to make it a little more accurate and data friendly so I did some reasearch and found a way to get thrust data by using a load cell connected with at HX-711 breakout board to and Arduino Uno which finally interfaces with MatLab using Simulink to give a live Thrust / time data graph. I found the Plotting file on a Matlab forum after attempting to make one myself but struggling since I was still very new to matlab and engineering in general. I am currently starting the process of re designing the mechanical portion of the test stand but the picture on the right is the current version and the one on the left is the first iteration using a kitchen scale to test the concept.