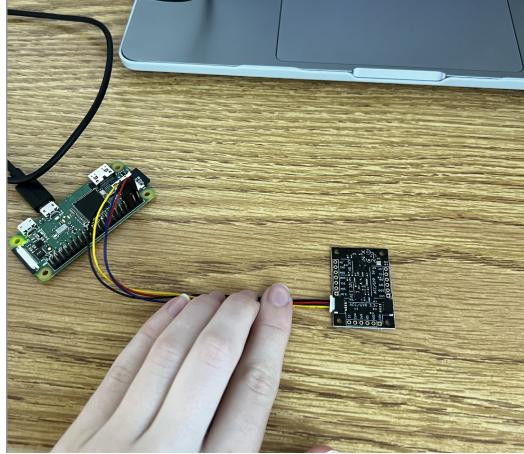


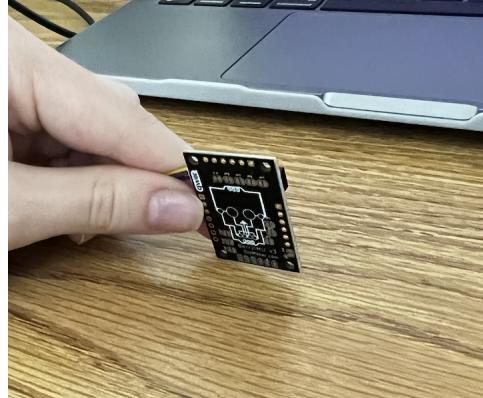
## Test Data Record

```
● ○ ● sarahsredden — pi@raspberrypi: ~/180DA_lab — ssh pi@raspberrypi.loca...
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.20 #
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.20 #
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.20 #
Loop Time 0.01      # CFangleX Angle -0.50  CFangleY Angle  0.20 #
Loop Time 0.01      # CFangleX Angle -0.50  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.49  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.48  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.48  CFangleY Angle  0.19 #
Loop Time 0.01      # CFangleX Angle -0.47  CFangleY Angle  0.20 #
Loop Time 0.01      # CFangleX Angle -0.47  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.47  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.48  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.49  CFangleY Angle  0.20 #
Loop Time 0.01      # CFangleX Angle -0.49  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.51  CFangleY Angle  0.23 #
Loop Time 0.01      # CFangleX Angle -0.52  CFangleY Angle  0.22 #
Loop Time 0.01      # CFangleX Angle -0.52  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.52  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.52  CFangleY Angle  0.21 #
Loop Time 0.01      # CFangleX Angle -0.50  CFangleY Angle  0.23 #
```



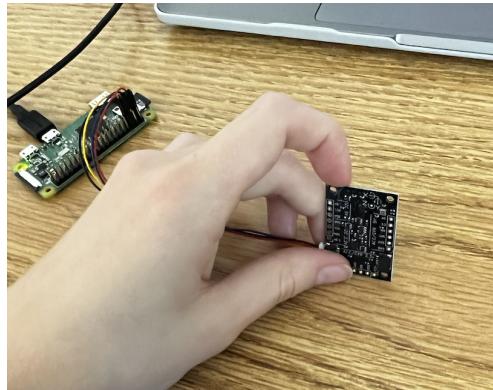
When gyro is flat, CFangleX is around 0. Playing around with this, the values fluctuate around 0 and 30 and -30 for flat-ish. I want the screen to be off with a wide range of values and maybe not even open until it is closer to perpendicular.

```
● ○ ● sarahsredden — pi@raspberrypi: ~/180DA_lab — ssh pi@raspberrypi.loca...
Loop Time 0.01      # CFangleX Angle 70.62  CFangleY Angle  8.39 #
Loop Time 0.01      # CFangleX Angle 70.62  CFangleY Angle  8.39 #
Loop Time 0.01      # CFangleX Angle 70.61  CFangleY Angle  8.38 #
Loop Time 0.01      # CFangleX Angle 70.57  CFangleY Angle  8.34 #
Loop Time 0.01      # CFangleX Angle 70.54  CFangleY Angle  8.31 #
Loop Time 0.01      # CFangleX Angle 70.53  CFangleY Angle  8.30 #
Loop Time 0.01      # CFangleX Angle 70.52  CFangleY Angle  8.30 #
Loop Time 0.01      # CFangleX Angle 70.52  CFangleY Angle  8.29 #
Loop Time 0.01      # CFangleX Angle 70.50  CFangleY Angle  8.28 #
Loop Time 0.01      # CFangleX Angle 70.48  CFangleY Angle  8.27 #
Loop Time 0.01      # CFangleX Angle 70.46  CFangleY Angle  8.27 #
Loop Time 0.01      # CFangleX Angle 70.46  CFangleY Angle  8.27 #
Loop Time 0.01      # CFangleX Angle 70.46  CFangleY Angle  8.28 #
Loop Time 0.01      # CFangleX Angle 70.45  CFangleY Angle  8.30 #
Loop Time 0.01      # CFangleX Angle 70.44  CFangleY Angle  8.31 #
Loop Time 0.01      # CFangleX Angle 70.44  CFangleY Angle  8.31 #
Loop Time 0.01      # CFangleX Angle 70.46  CFangleY Angle  8.34 #
Loop Time 0.01      # CFangleX Angle 70.48  CFangleY Angle  8.35 #
Loop Time 0.01      # CFangleX Angle 70.50  CFangleY Angle  8.36 #
Loop Time 0.01      # CFangleX Angle 70.55  CFangleY Angle  8.39 #
Loop Time 0.01      # CFangleX Angle 70.56  CFangleY Angle  8.41 #
Loop Time 0.01      # CFangleX Angle 70.57  CFangleY Angle  8.43 #
Loop Time 0.01      # CFangleX Angle 70.59  CFangleY Angle  8.45 #
```



I think this is about the point/angle I want the screen to turn on, so this is about 70 deg. Anything above 70 i want it to stay on, unless upside down which i will tackle in the next set of values.

```
sarahsredden — pi@raspberrypi: ~/180DA_lab — ssh pi@raspberrypi.loca.
Loop Time 0.01      # CFangleX Angle -70.72  CFangleY Angle  2.17  #
Loop Time 0.01      # CFangleX Angle -70.73  CFangleY Angle  2.19  #
Loop Time 0.01      # CFangleX Angle -70.73  CFangleY Angle  2.20  #
Loop Time 0.01      # CFangleX Angle -70.74  CFangleY Angle  2.18  #
Loop Time 0.01      # CFangleX Angle -70.74  CFangleY Angle  2.20  #
Loop Time 0.01      # CFangleX Angle -70.73  CFangleY Angle  2.23  #
Loop Time 0.01      # CFangleX Angle -70.73  CFangleY Angle  2.24  #
Loop Time 0.01      # CFangleX Angle -70.73  CFangleY Angle  2.24  #
Loop Time 0.01      # CFangleX Angle -70.72  CFangleY Angle  2.24  #
Loop Time 0.01      # CFangleX Angle -70.70  CFangleY Angle  2.24  #
Loop Time 0.01      # CFangleX Angle -70.69  CFangleY Angle  2.19  #
Loop Time 0.01      # CFangleX Angle -70.66  CFangleY Angle  2.16  #
Loop Time 0.01      # CFangleX Angle -70.65  CFangleY Angle  2.13  #
Loop Time 0.01      # CFangleX Angle -70.64  CFangleY Angle  2.07  #
Loop Time 0.01      # CFangleX Angle -70.58  CFangleY Angle  2.05  #
Loop Time 0.01      # CFangleX Angle -70.57  CFangleY Angle  2.03  #
Loop Time 0.01      # CFangleX Angle -70.57  CFangleY Angle  2.01  #
Loop Time 0.01      # CFangleX Angle -70.57  CFangleY Angle  1.99  #
Loop Time 0.01      # CFangleX Angle -70.63  CFangleY Angle  1.98  #
Loop Time 0.01      # CFangleX Angle -70.64  CFangleY Angle  2.00  #
Loop Time 0.01      # CFangleX Angle -70.59  CFangleY Angle  2.02  #
Loop Time 0.01      # CFangleX Angle -70.58  CFangleY Angle  2.02  #
Loop Time 0.01      # CFangleX Angle -70.57  CFangleY Angle  2.02  #
```



Finally I wanted it to turn on/off if it is on backwards just for versatility. This angle turns out to also be around -70.

Then we have the command:

```
subprocess.run('vcgencmd display_power 0', shell=True)
```

This is the line that will turn the display itself on and off by just cutting the power to the hdmi... just replace the 0 with a 1 in the same line to turn it back on.