**Instructions to run the program:**

1. The Kalman filter link that was provided works only till 90 degrees for Y-Axis.
2. Please donot rotate very fast. Rotate slowly for accurate results.
3. The IP for the unity has to be changed at the macro named IP\_AD\_UN

**Report on sampling rate:**

When I set the sampling rate to 200, it works fine.

Sampling rate of 300 makes it little distorted. The movement of the simulator is not perfect but neither it is still.

Sampling rate of 400 is too high. The simulator is always at a halt.

Varying the sampling rate from 200 to 300, the simulator functions properly at a rate observed between 230 and 260.

The sampling rate is observed to be lesser when we implement using interrupts where as when we read the data; the highest sampling rate is higher by around 50 samples. This is due to the overhead caused by I2C communication.