Ping-Pong Racket Tracking

The Goal

In the previous week, I was able to predict the trajectory of the moving ping-pong ball.

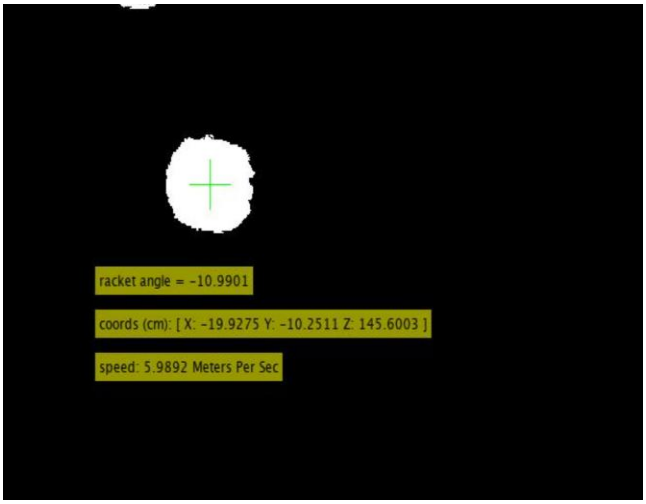
For this week, the goal was to see if we can track the ping pong racket properly, as well as seeing the speed of the racket as we shoot the ball. I also worked towards the goal of being able to get a proper angle for the racket

The Result

Racket tracking and speed of hit

Since the racket is a rather big object (at least compared to the ping pong ball!) it appears that there is no problem with tracking it in close and far distances with the help of color thresholding.

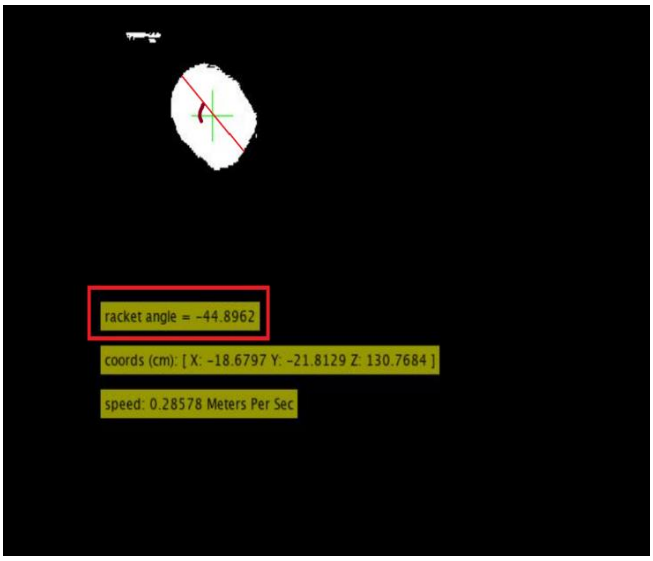
As for the speed of swinging the racket with might, I appear to be getting a speed of around 6MPS.

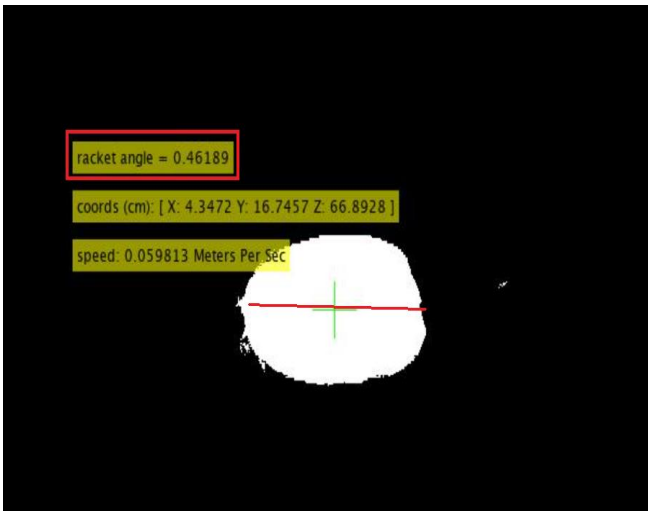


Although normally hitting the ping-pong ball will yield a much slower speed for the racket (which is around 1MPS)

Racket Orientation

One of the other things that I managed to do was to get the orientation of the racket.
The way this works is that it compares the major axis' angle of the sphere formed from the blob to the horizontal axis (the X axis). As an example, we have the following:





Additional work

Made some slight modifications to my code to have a better tracking system. I also researched a bit on other object detection methods other than thresholding for our current task. As of right now, the thresholding method seems to be the most plausible method, especially computational-wise.