

For capturing white and yellow edges using Hough transform reliably, I used the white and yellow filter HSV parameters from hw-7 and tuned the Hough transform parameters. The tuning was image specific. For distinctly capturing closely spaced lines, I have to use lower values for the parameter “**max\_gap**”, for eliminating noise around the color, I used higher value for the parameter “**min\_length**”, and for distinction between actual edges and noise I increased the value for the parameter “**thresh**”.

My Hough transform parameters for one of the image are:

```
r_res = 1
theta_res = np.pi*01.0/180
# threshold: number of intersections to define a line
thresh = 8
# min_length: minimum number of points to form a line
min_length = 3
# max_gap: maximum gap between two points to be considered a line
max_gap = 6
```

The Hough transform results (for yellow and white edges) using the image specific Hough transform parameters for all the images are shown below.

### 1. image0.png

thresh = 10, min\_length = 5, max\_gap = 10

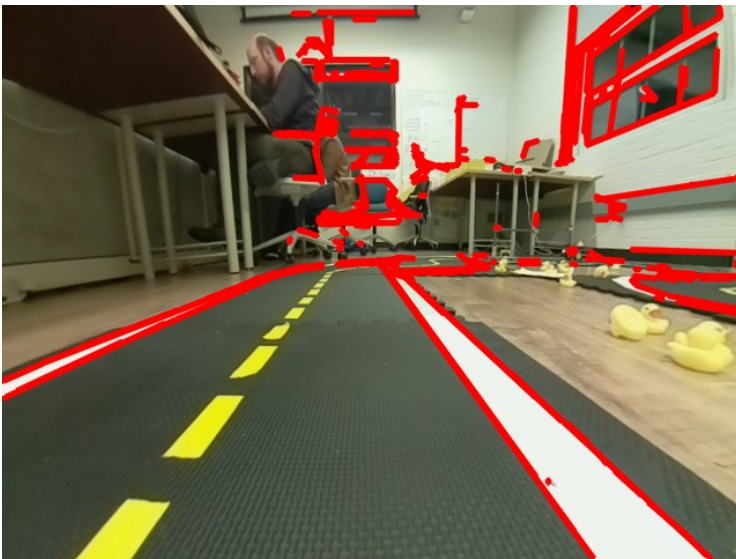


Image0.png: ht\_white\_edges

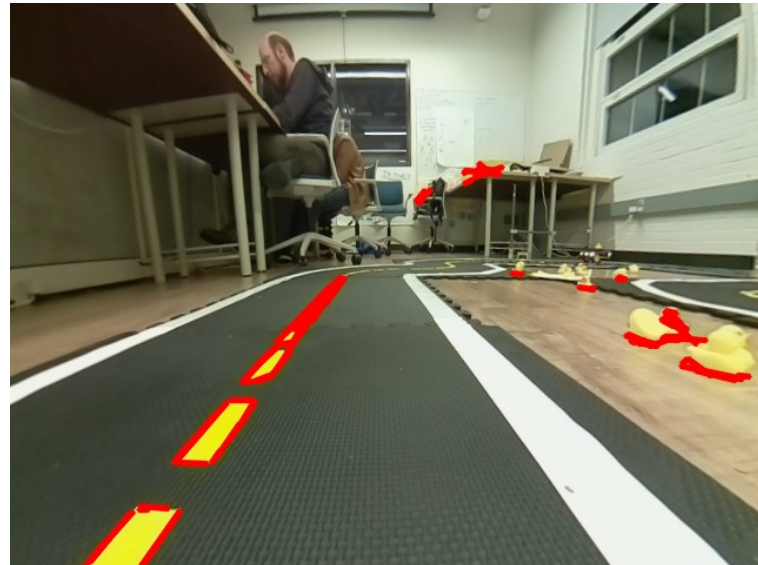
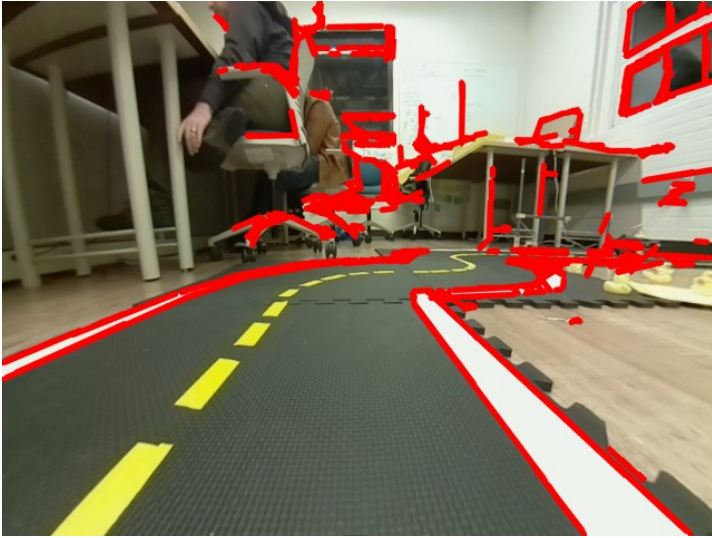


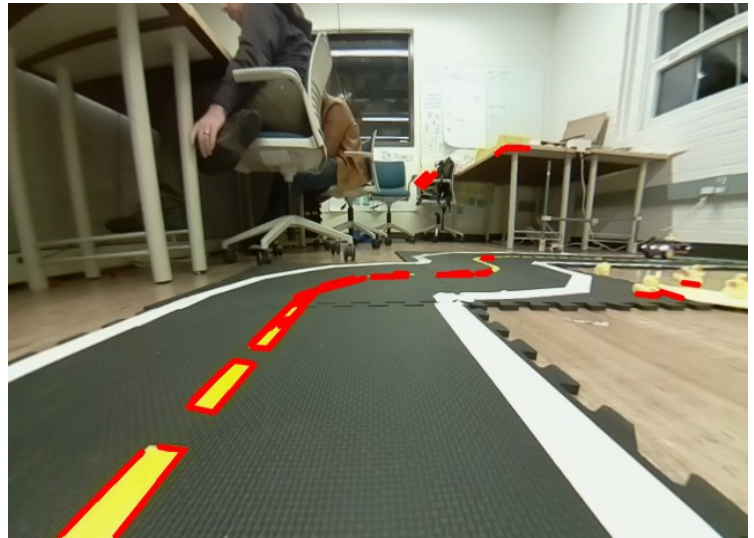
Image0.png: ht\_yellow\_edges

## 2. image1.png

thresh = 10 min\_length = 5, max\_gap = 6



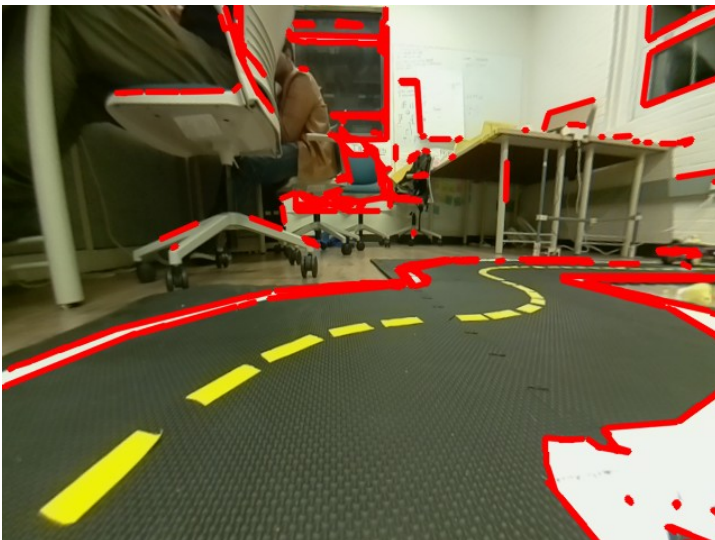
*Image1.png: ht\_white\_edges*



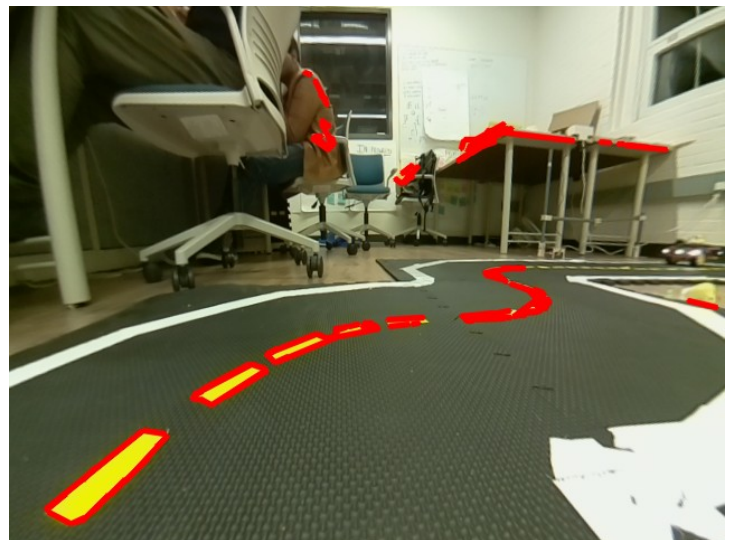
*Image1.png: ht\_yellow\_edges*

## 3. image2.png

thresh = 8, min\_length = 3, max\_gap = 6



*Image2.png: ht\_white\_edges*

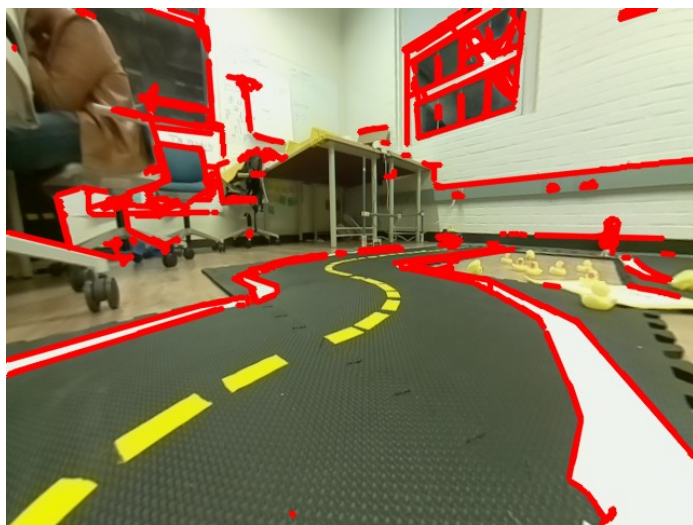


*Image2.png: ht\_yellow\_edges*

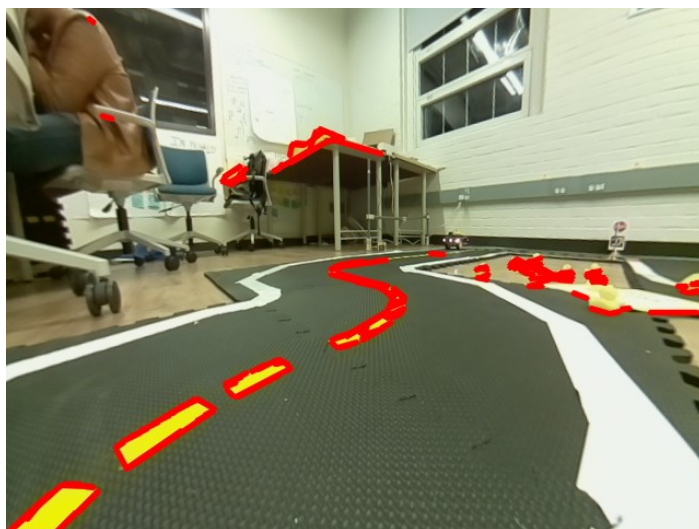


#### 4. image3.png

thresh = 8, min\_length = 3, max\_gap = 6



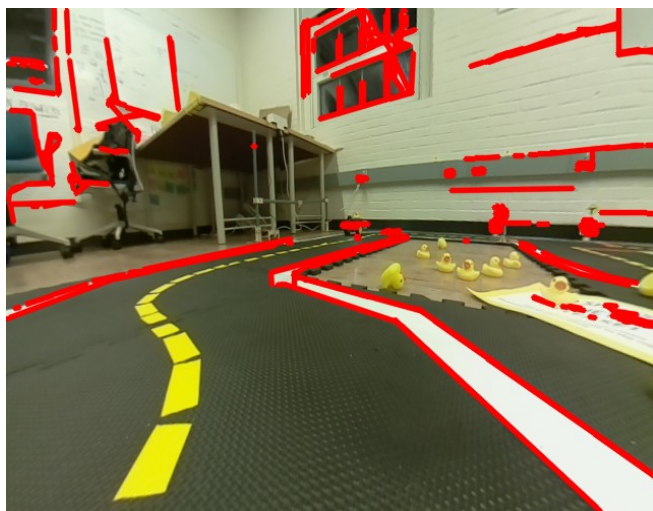
*Image3.png: ht\_white\_edges*



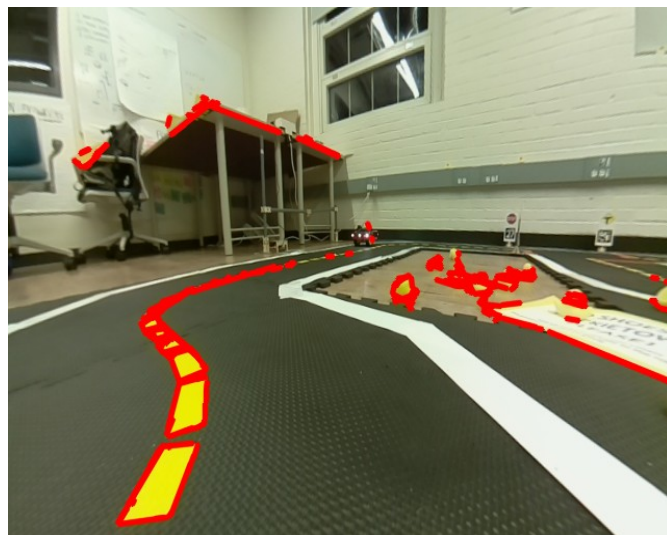
*Image3.png: ht\_yellow\_edges*

#### 5. image4.png

thresh = 8, min\_length = 3, max\_gap = 6



*Image4.png: ht\_white\_edges*



*Image4.png: ht\_white\_edges*