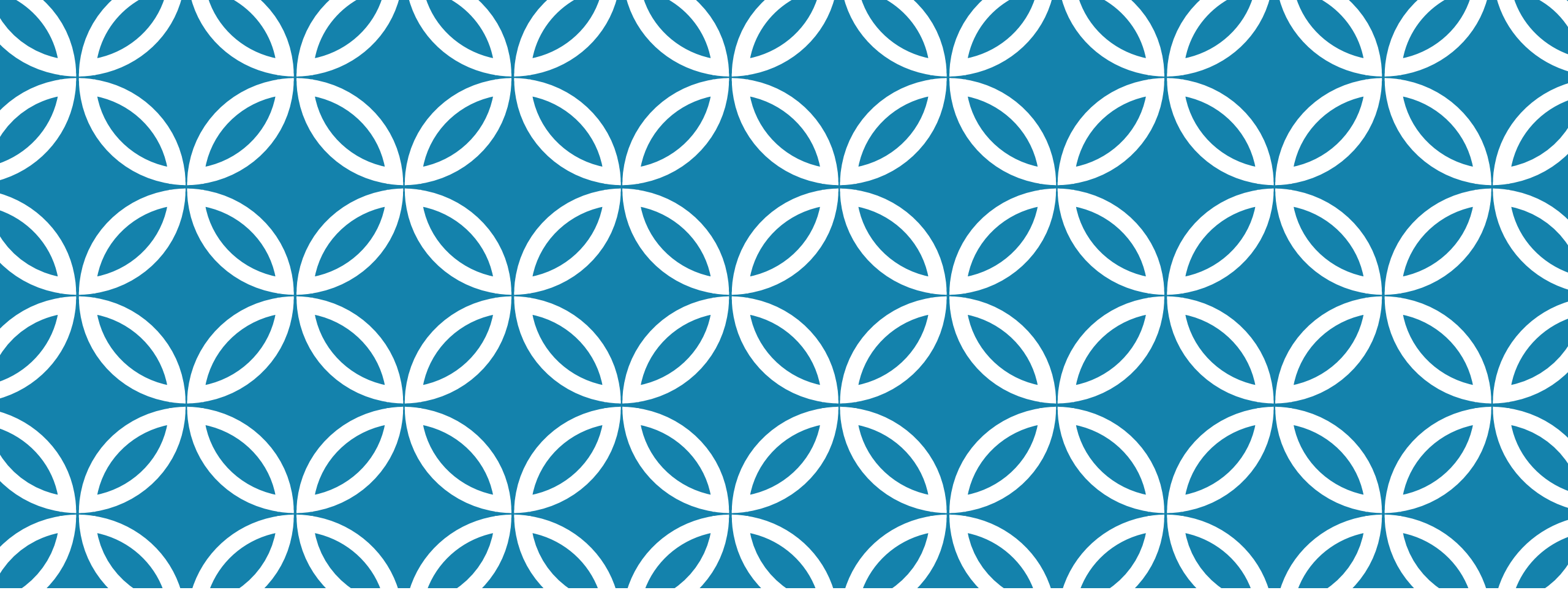


UMIAM HOSTEL

AUTONOMOUS NAVIGATION SYSTEM

PRE PROCESSING OF IMAGE

The Pre-Processing of our image involves :-

1. BLURRING THE IMAGE
2. CROPPING THE IMAGE
3. THRESHODING THE IMAGE

GETTING THE ROI

For getting the region of interest we need to combine our image with the mask of 0's and 1's , and get the final image i.e. taking the and of both the images.

BACKGROUND SUBTRACTION

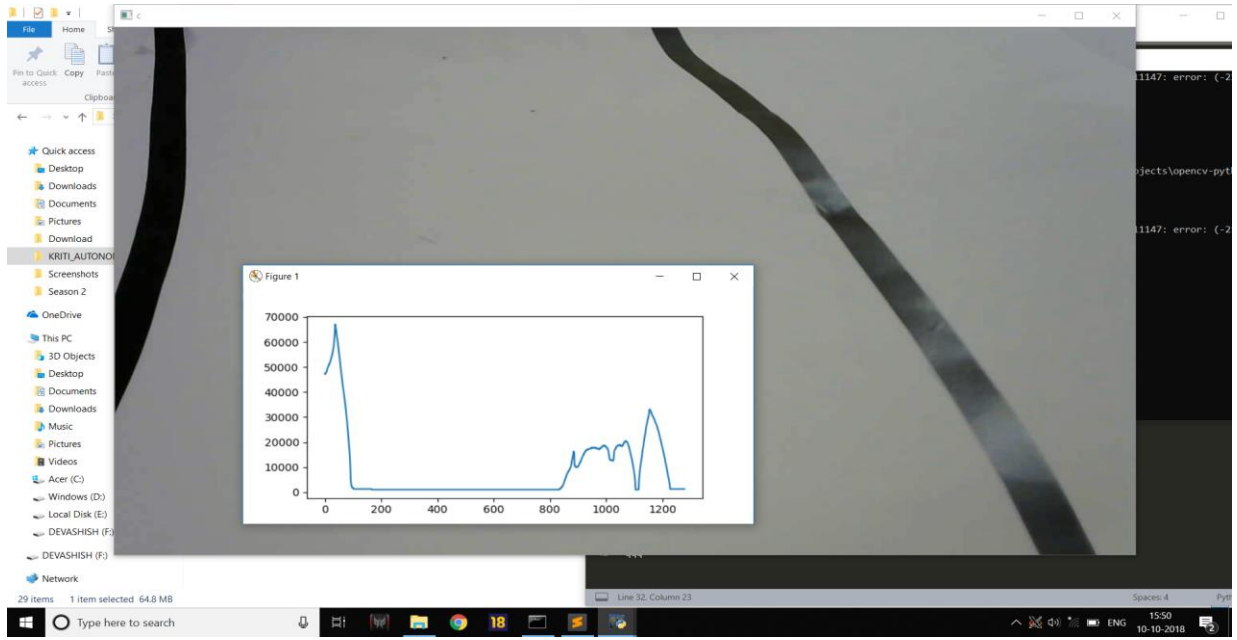
1. FINDING THE AVERAGE PIXEL VALUE OF THE IMAGE.
2. SUBTRACTING THE AVERAGE PIXEL VALUE OF THE IMAGE.
3. TAKING THE MODULUS OF THE ARRAY OF IMAGE TO GET THE FINAL IMAGE WITH THE TRACK OF THE ROAD.

THRESHOLDING IMAGE TO BINARY

After the track is obtained, we need to set a threshold value so as to get a binary image of the track. This will help in the easier understanding of the problem.

HISTOGRAMS

Now we need to plot the histograms of the image thus formed and thus by comparing the width of the peak values we can decide the movement of the car.



HARDWARE USED

1. ARDUINO UNO
2. WEB CAM
3. SERVO
4. DC MOTORS
5. MOTOR DRIVER
6. LIPO