clc;

clear all;

close all;

inputvideo=vision.VideoFileReader('traffic.avi'); vid1=vision.VideoPlayer; while~isDone(inputvideo)

frame1=step(inputvideo);

step(vid1,frame1);

pause(0.005);

end

imwrite(frame1,'C:\Users\Desktop\referenceimage.jpg','jpg');

release(inputvideo);

release(vid1);

referenceimage=imread('C:\Users\Desktop\referenceimage.jpg'); vid2=vision.VideoFileReader('Traffic.avi');

for i=2:121

clc

frame=step(vid2);

frame2=((im2double(frame))-(im2double(referenceimage)));

frame1=im2bw(frame2,0.2);

[labelimage]=bwlabel(frame1);

stats=regionprops(labelimage,'basic');

BB=stats.BoundingBox;

X(i)=BB(1);

Y(i)=BB(2);

Dist=((X(i)-X(i-1))^2+(Y(i)-Y(i-1))^2)^(1/2)

Z(i)=Dist;

if(Dist>10&&Dist<20)

display('MEDIUM SPEED');

elseif(Dist<10)

display('SLOW SPEED');

else

display('FAST SPEED');

end

S=strel('disk',6);

frame3=imclose(frame1,S);

step(vid1,frame1);

pause(0.05);

end

M=median(Z);

Speed=(M)\*(120/8)

release(vid1)

**http://rlhick.people.wm.edu/posts/comparing-the-speed-of-matlab-versus-pythonnumpy-partii.html**