

# Mathematical Modelling and Simulation Laboratory (AE 2274)

## Assignment - 18

Name – Surajit Dutta

Enrollment No – 511319043

Department of Aerospace Engineering and Applied Mechanics

## Object Detection and Tracking Using MATLAB

CODE:

```
vid = videoinput('winvideo',1,'MJPEG_1024x576');
set(vid,'FramesPerTrigger',Inf);
set(vid,'Returnedcolorspace','rgb')
vid.FrameGrabInterval=5;
start(vid)
while(vid.FramesAcquired<=200)
data=getsnapshot(vid);
diff_im=imsubtract(data(:,:,1),rgb2gray(data));
diff_im=medfilt2(diff_im,[3 3]);
diff_im=im2bw(diff_im,0.18);
diff_im=bwareaopen(diff_im,300);
bw=bwlabel(diff_im,8);
stats=regionprops(bw,'BoundingBox','Centroid');
imshow(data)
hold on
for object=1:length(stats)
bb=stats(object).BoundingBox;
bc=stats(object).Centroid;
rectangle('Position',bb,'EdgeColor','r','LineWidth',2)
plot(bc(1),bc(2),'-m+')

a=text(bc(1)+15,bc(2),strcat('X:',num2str(round(bc(1))), 'y:',num2str(
round(bc(2)))));
set(a,'FontName','Arial','FontWeight','bold','FontSize',12,'color','
yellow');
end
hold off
end
stop(vid)
flushdata(vid);
clear all
sprintf('%s','ImageTrackingcompleted')
```

RESULT: -

Surajit Dutta

