

## Ass#2 - OpenCV Python (assign Feb 6 due Feb 22)



# Due February 22nd

Two part assignment.....using Python and OpenCV you need to do the following two parts (it can be two different applications, or one).

Part One:

## Tracking an object

Steps to do it properly.....

1. Capture live video from Webcam
2. Display live video
3. convert to HSV
4. Display the HSV video
5. Click on HSV video and capture the values at that location, and a few other local values
  1. use a MouseCallback
6. Using Sliders create scalars for the min and max values you want to track
  1. a Scalar will be a numpy array (np.array) that takes 3 values for minH, minS, and minV.....then a second scalar to catch the other three Max values
  2. createTrackbar with a callback method to set your variables
7. Use the inRange method to find the values between the scalars from HSV image and the result will go to a grayscale image.
8. dilate, erode the grayscale image to get a better representation of the object
- 9.

Part Two

## Detect Motion

The Steps I took in the example I showed in class.

[Video Explanation](#) (this shows it working in Visual Studio, but we're using Python, I'll show that in class).

1. Capture an image
2. Create blank images:
  1. grayscale image with proper dimensions
  2. 32f, 3 channel image
  3. a capture clone we'll call image1
  4. One to hold the difference
3. while loop
4. grab new frame
  1. I brightened image a bit first which helped

1. I brightened image a bit first which helped
5. blur image
6. take running average of frame: **accumulateWeighted**
7. swap running average to same format as frame: **convertScaleAbs**
8. Take difference
9. convert to grayscale
10. threshold grayscale (low number)
11. blur grayscale
12. threshold grayscale (high number)
13. find contours: **findContours**
14. Use contours to find significant blobs,



Send to Binder



Download

Print

--	--

### Activity Details

*You have viewed this topic*

*Last Visited Feb 21, 2017 11:29 PM*