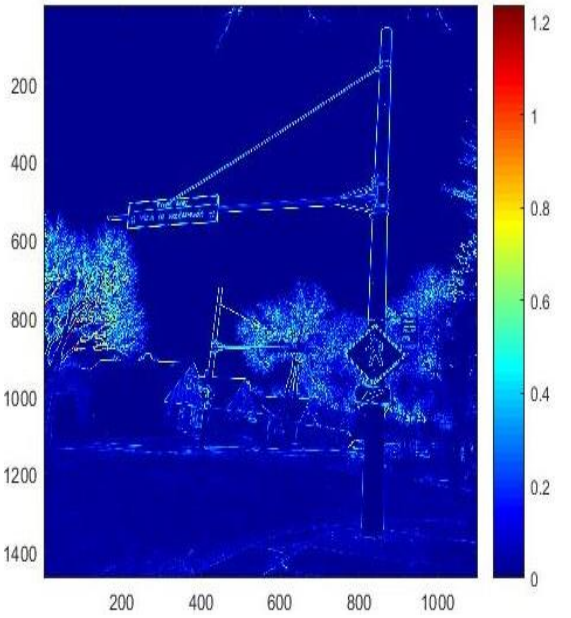
Derek Yang
63118832

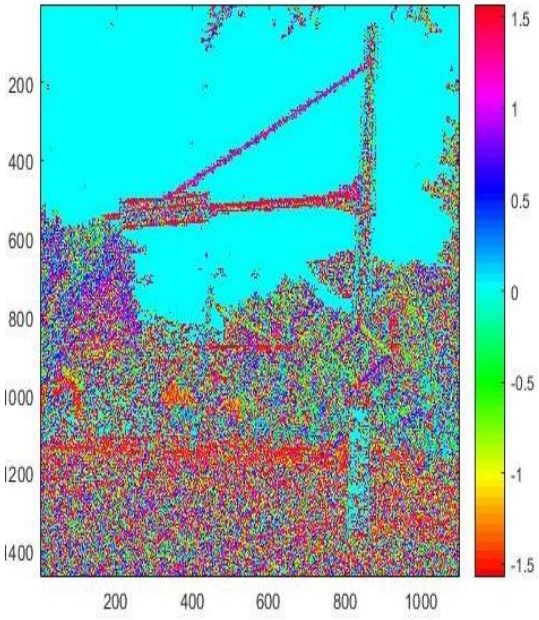
CS 116: HW#4 Write-Up

1. mygradient:

Magnitude:



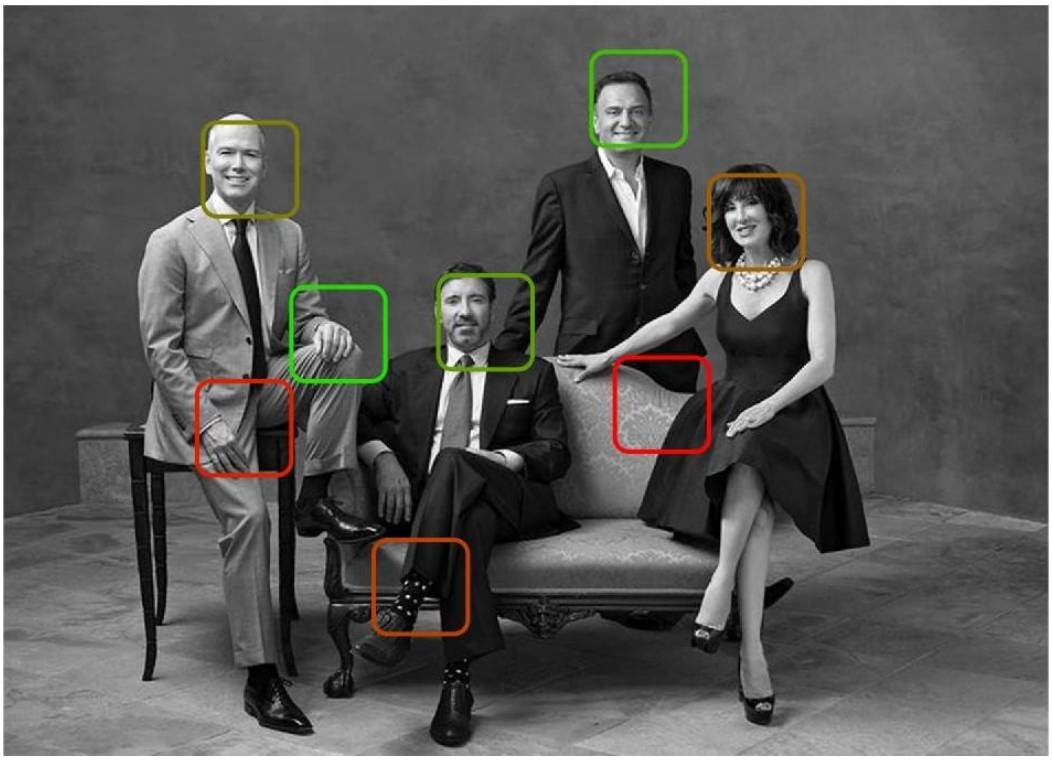
Orientation:



2. Face Detection:
   a. Positive Template:

Negative Template:

b. Result:



Wolf Detection:

a. Positive Template:

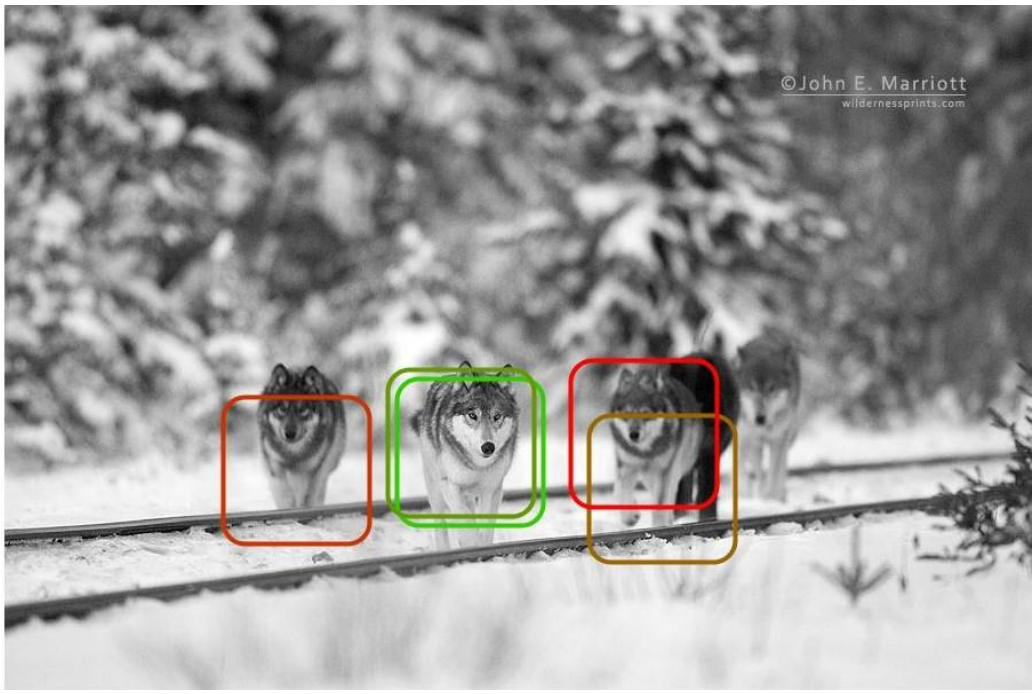



Negative Template:






b. Result:



Panda Detection:

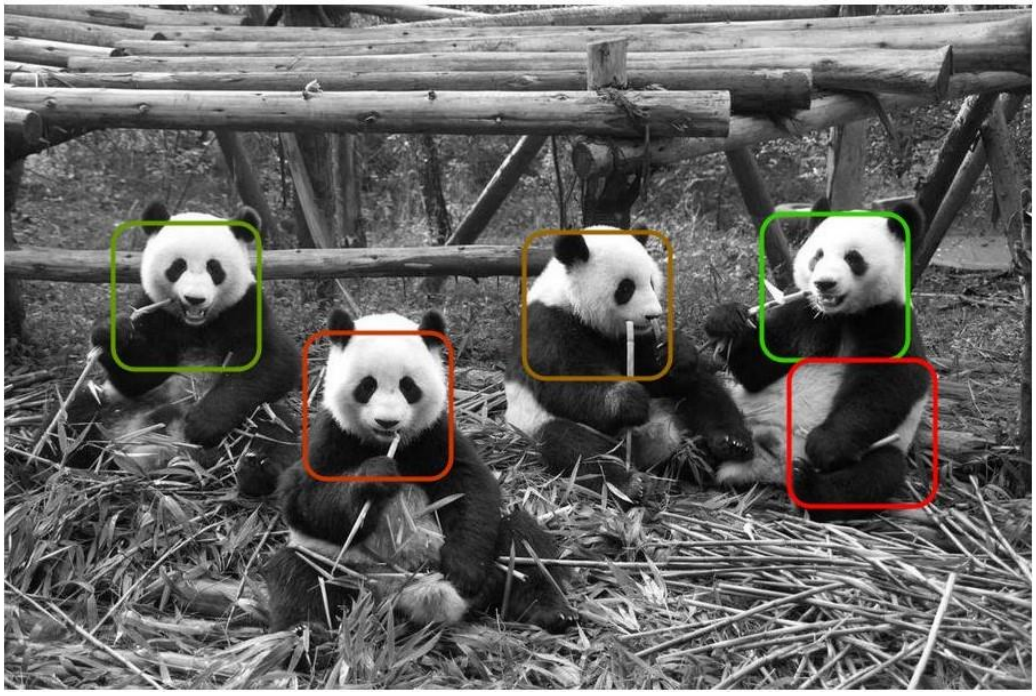
a. Positive Template:





Negative Template:

b. Result:



3. I notice that the detector works the best in two situation, when the images are similar sizes and the objects are in similar orientations. When the template and the object you want to detect are similar sizes, it the detector is usually more accurate than mismatch object and template sizes. Also orientation of the object affects the accuracy especially if the object is angled downwards or upwards in a way that is not symmetrical as it would be if the object turned left or right. Where the detector fails is when there is a lot of contrast in an image or if there is too little contrast in an image. When there is too much, there is more chance of an “object detection” and when there is too little, the hog generated is full of zeros. I think a way to improve the detector is to implement scaling of the template so the template would adjust instead of changing the template size.