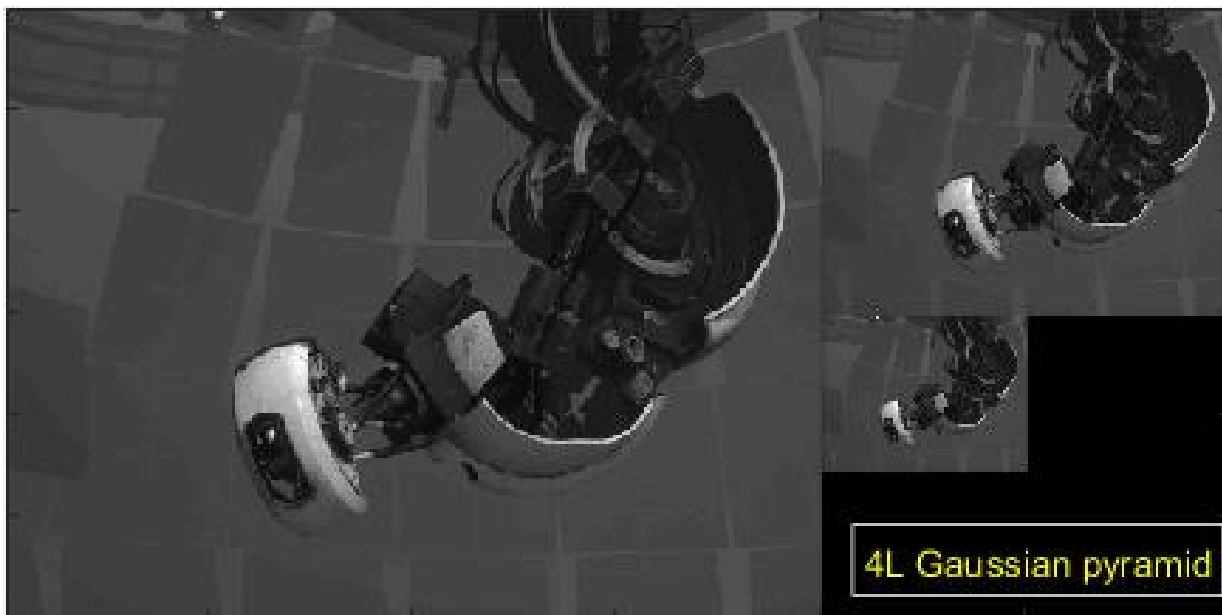


CSE 5524 - Homework #3

8/29/2016

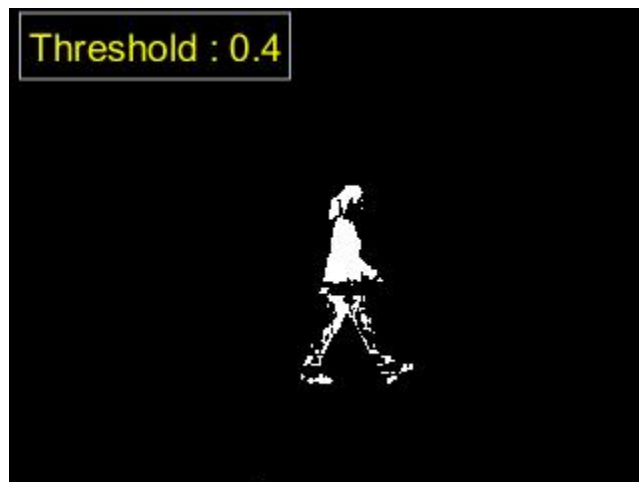
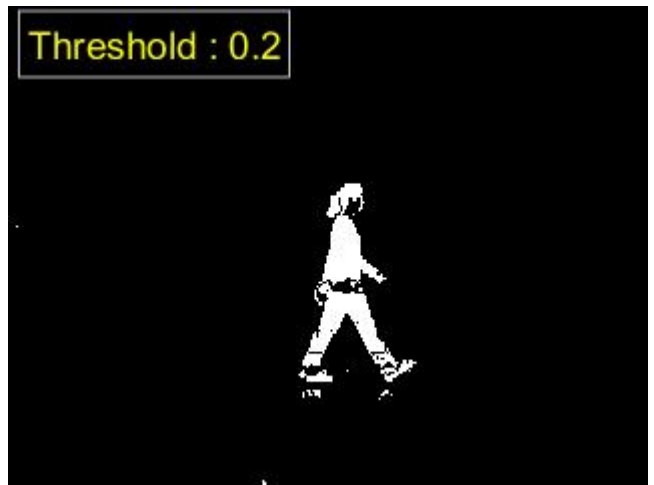
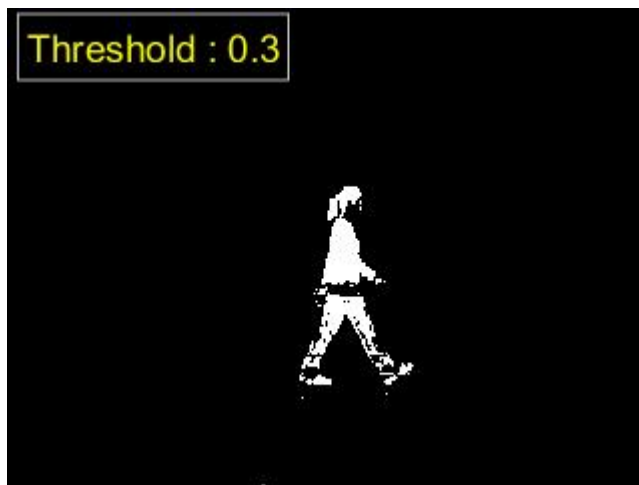
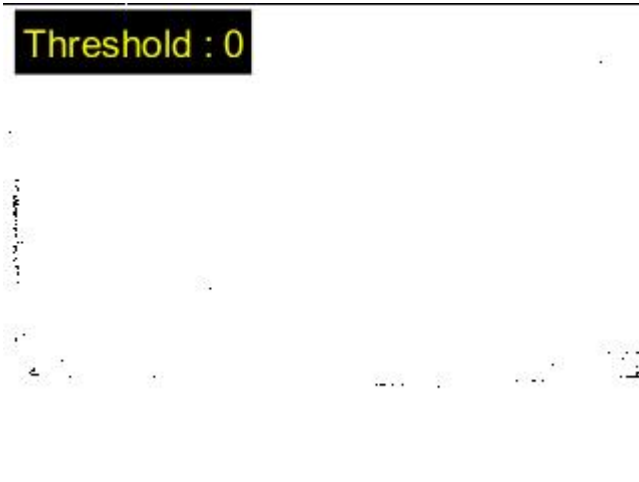
Chandrasekar Swaminathan (swaminathan.42)

1) Generate a 4-level Gaussian pyramid (original image is level-1) and the corresponding Laplacian pyramid of an image (select one from the web). Use the formula in the notes to first determine a viable image size, and crop the image (if needed) to test the pyramid code. Use $\alpha=0.4$ for the Gaussian mask – use separable masks! Write/use functions for properly reducing and expanding an image.





2) Using the grayscale images (walk.bmp, bg000.bmp) provided on the WWW site, perform background subtraction 1 using simple image subtraction to identify the object. Experiment with thresholds.



Threshold : 0.6



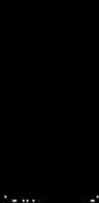
Threshold : 0.7



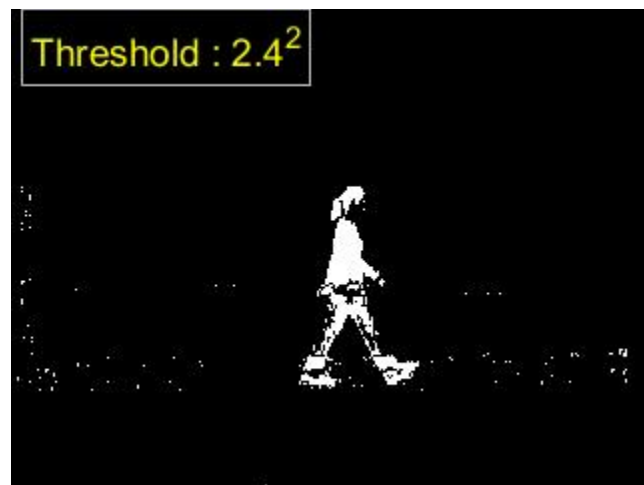
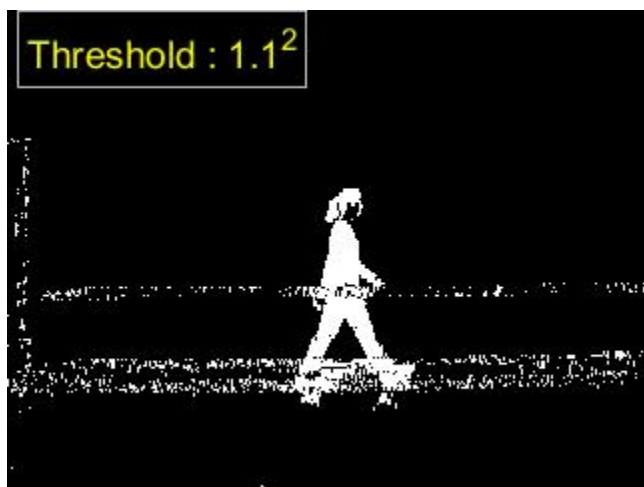
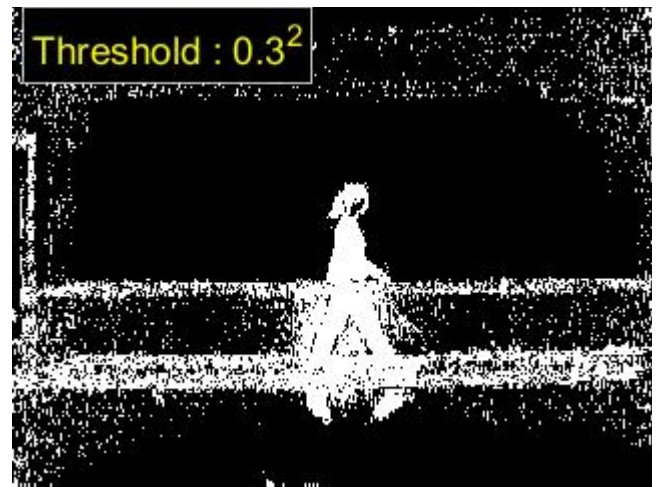
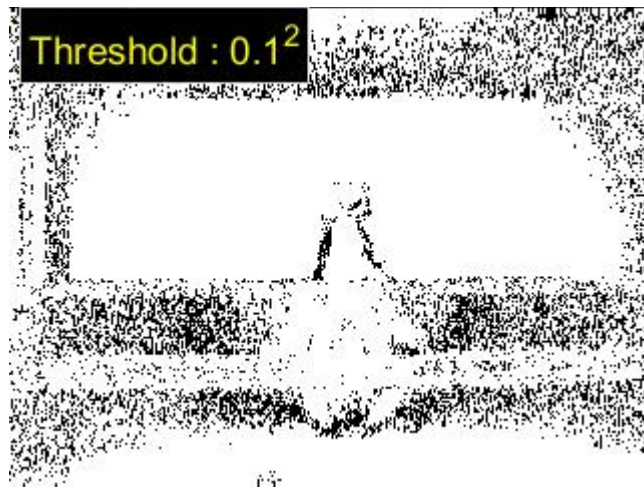
Threshold : 0.8



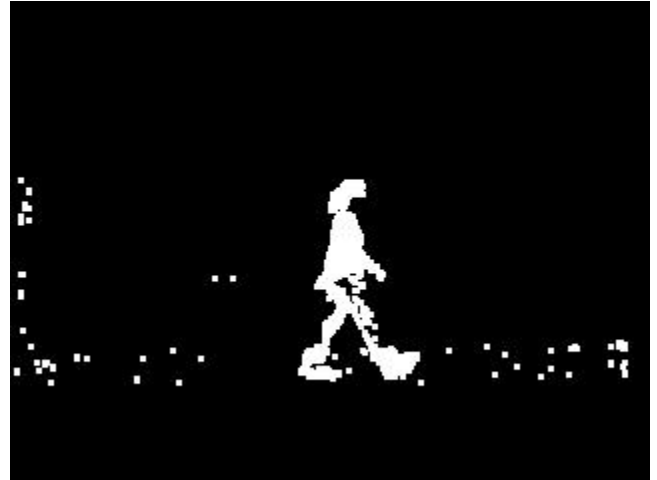
Threshold : 0.9



3) Using the grayscale images (walk.bmp, bg[000-029].bmp) provided on the WWW site, perform background subtraction 2 using statistical distances. Experiment with thresholds.



4) Dilate the best binary image resulting from problem 3) using `d_bslm = bwmorph(bslm, 'dilate');`



5) Next perform a connected components algorithm, and keep only the largest region in L (save/display as an image).

```
[L, num] = bwlabel(d_bsim, 8);
```

