Features

Exercises in Matlab

I. Edge Detection

In this exercise you are asked to compare the performance of the various edge detectors.

1. Load the image of Lena: ‘lena.tif’
2. Visually identify the important edges in the image. You will use this to assess the performance of the edge operators.
3. Using function **edge** and each of the Sobel, Prewitt and Canny methods, vary the thresholds to reach to the best possible result. (Also give some examples of “bad” parameter settings.)
4. Which of the three edge detection methods you would prefer? why?

II. Image Skeleton

1. Load the silhouette of a cyclist in image: ‘cyclist.tif’
2. Use function **bwmorph(BW,operation,n)** and operation **'skel'**. Change **n** and explain its effect.
3. Use function **bwdist(BW,method)** and apply the methods **'chessboard'**, **'cityblock'** and **'euclidean'**. Explain the differences between these method.
   [Hint: You need to invert (black should become white and vice versa) the image first and then apply bwdist function]
4. Threshold the resulting image of method ‘euclidean’ from Part 3, to detect the torso location. What is the threshold of your choice?

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