INF 4300 - Exercise for Thursday 10.09.20135

Texture

Use images from
http://www.uio.no/studier/emner/matnat/ifi/INF4300/h15/undervisningsmateriale/week2/

The images zebra_1.tif, zebra_2.tif ... zebra_6.tif contain some
fine specimens of a particularly textured herbivore. We will try to implement a
zebra-detector by analyzing texture.

Task 1:
First, try to implement your own GLCM function that takes as input an image
window and number of image greyscales and outputs a co-occurence matrix.
Derive variance, contrast and entropy from the GLCM of a sliding window at a
suitable size.

Task 2:
Try to use a simple tresholding of these features to mask out the zebras in the
images.

Task 3:
Then compare your result with the first order texture measures: variance and
entropy by using the Matlab functions: stdfilt and entropyfilt.

Task 4:
If you have time, try to use Laws texture masks to analyze the image with a
suitable mask or two. Remember to average energy over windows. Laws masks
can be built and applied with conv2 function in Matlab.

Happy zebra hunting!