CSE3018 CONTENT BASED IMAGE AND VIDEO RETRIEVAL LAB
EXERCISE - 6

DATE: 18.03.2021

Gray Level Cooccurrence Matrix

1. Derive the GLCM of the given image.
    a. Read the colour image
    b. Convert into grayscale
    c. Quantize the image for 08, 16, 32, 64 levels.
    d. Find out GLCM – Horizontal and Vertical, for each quantization level and obtain the following features :
        i. Energy
        ii. Entropy
        iii. Contrast
        iv. Inverse Difference Moment
2. Implement a CBIR for Texture Images using these GLCM Features, for an optimal quantization level. (32)

    Note :

    - GLCM in 3 directions (Horizontal, Vertical and Leading Diagonal), Distance of 1, 4 features from each matrix. (So you will have 12 features for each of your image)
    - You image set be purely texture images. Operate on gray scale images. If it is a color image, you can convert to gray or do color plane separation and do. For the latter case, you will have 12 * 3 = 36 features for every color image.