CSE3018 CONTENT BASED IMAGE AND VIDEO RETRIEVAL LAB
EXERCISE - 8

DATE: 29.09.2021

Gray Level Cooccurrence Matrix

1. Derive the GLCM of the texture images:
    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.