BME 4783 - Medical Imaging Modalities 1

File loading 1

## BME 4783 - Medical Imaging Modalities

Image Characterization

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clear all

close all

## File loading

Load an Image into a matrix I.

sample = imread('overconfluent.tif');

%sample = imread(filename);

originalSample = sample;

% Convert the Image to grayscale.

%sample = rgb2gray(sample);

% Display Original Image.

figure(1)

H0 = entropy(originalSample);

imshow(originalSample)

title('Original Picture of Cell Culture')

text(10,10,strcat('\color{blue}Entropy:',num2str(H0)))

% Display Grayscale Image.

figure(2)

Hg = entropy(sample);

imshow(sample)

title('Picture of Cell Culture in Grayscale')

text(10,10,strcat('\color{blue}Entropy:',num2str(Hg)))

% Contrast visualization.

figure(3)

imhist(sample)

title('Histogram of Intensity Values in Grayscale Image')

% Frequency Analysis

figure(4)

f = sample;

imshow(f,'InitialMagnification','fit')

F = fft2(f,256,256);

F2 = log(abs(F));

imshow(F2,[-1 5],'InitialMagnification','fit'); colormap(jet); colorbar

title('2 Dimensional Fast Fourier Transform of Grayscale Image');

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