

INSTITUTE OF TECHNOLOGY OF CAMBODIA
DEPARTMENT OF INFORMATION AND COMMUNICATION
ENGINEERING

I5-GIC (B)

Image Processing

Assignment_Discussion12

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Discussion 12

1) What is convolution?

+ Convolution is a mathematical operation on two functions (f and g); it produces a third function giving the integral of the pointwise multiplication of the two functions as a function of the amount that one of the original functions is translated and it is similar to cross-correlation.

2) What is a mask or kernel?

+ Mask is a small matrix used for blurring, sharpening, embossing, edge detection, and more.

+ Kernel is a small matrix. It is also known as mask.

3) Why do we need to do smoothing?

+ We need to do smoothing because in order to eliminate these high frequencies and it assists in the prediction of the usual direction of the next observed data point.

4) What is thresholding?

+ Thresholding is the simplest method of image segmentation. From a grayscale image, thresholding can be used to create binary images (Shapiro, et al. 2001:83).

5) What is the difference between low and high threshold?

+ The difference between low and high threshold:

- Low threshold: all edges are detected but we have false positives.

- High threshold: all the pixels detected are edge pixels but we are missing some of them (false negatives).