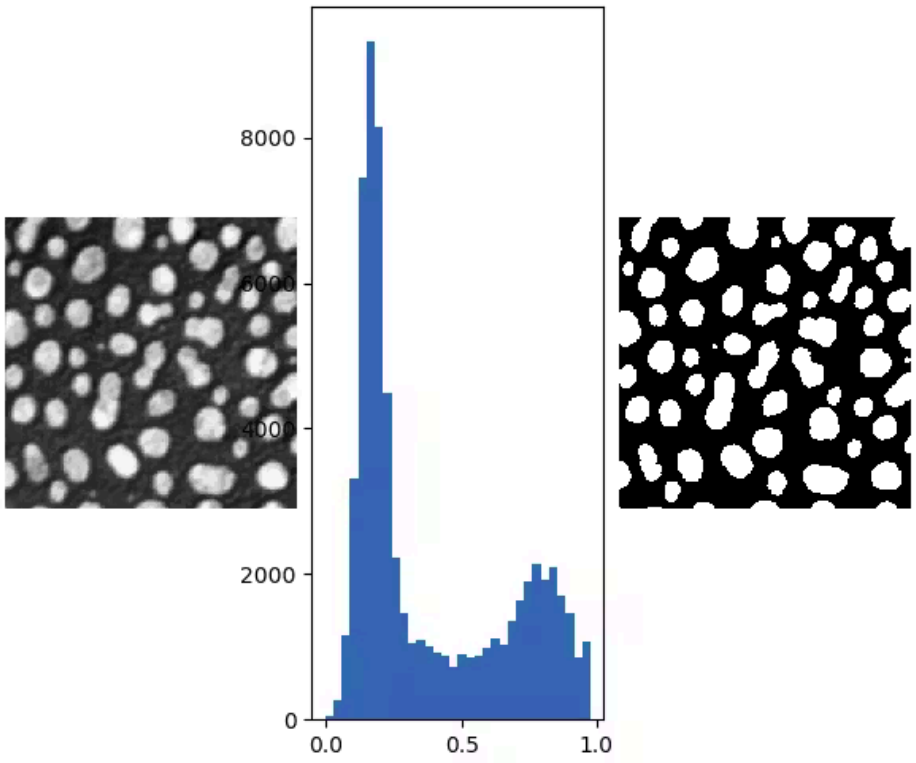
Image Processing for Computer Vision
Session 5

Image Thresholding



collected

Topics

- Image Thresholding
- Binary, BinaryInv,
- Trunc,
- ToZero and ToZeroInv Thresholding using openCV

Image Thresholding

a technique that separates an image into a foreground and background by converting a grayscale image into a binary image

How It Works?

- The intensity values of an image are compared against a threshold value.
- Pixels with intensity values above or below this threshold are categorized differently.

Applications:

- Object detection,
- segmentation,
- edge detection
- image enhancement,
- pattern recognition

Types of thresholding:
Global thresholding, adaptive thresholding, and Otsu's method

Global Thresholding

Syntax:

cv2.threshold(gray_img, threshold_val, max_val, threshold_type)
max_val - used only for binary and binary INV

threshold_type -

Binary >threshold (p_val=max_val); <=threshold (p_val=0)
Binary INV >threshold (p_val=0); <=threshold (p_val=max_val)
Trunc >threshold (p_val=threshold); <=threshold (p_val unchanged)
ToZero >threshold (p_val unchanged); <=threshold (p_val=0)
ToZero INV >threshold (p_val=0/black); <=threshold (p_val unchanged)