BME 7112 PROCESSING OF MEDICAL IMAGES SPRING 2019

Homework Project # 8 (10 points) **Due Date: 04-04-2019**

In this project, you will explore the use of thresholding and logical operations for image processing. The input image file, "**BME7112_Data_File_8.tif**" is available on Pilot.

The test image is a histological cross section of pancreatic tissue. Your tasks are to

a) automatically count the number of nuclei in this image; and

b) automatically determine how many nuclei are further than n pixels away from the nearest adjacent nuclei, where n is a value of the user's choice.

Use thresholding, morphological techniques and logical operations to make these determinations. Nuclei that are not fully within the image should be counted if their area is at least 50% of the average area of a complete nuclei.

In your report, explain your implementation approach and provide intermediate images that lead to your final results. How many nuclei did you count? How many nuclei are 20 pixels away from the nearest nuclei? Be sure to title images that are produced during the running of your script. Submit your .m file(s) and report via Pilot, using these filenames:

Code: "BME7112_HW8_YLN_yourFilename.m"

Report: "BME7112_HW8_YLN.docx" (or .pdf)