IMT 4126

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General Matlab programming

1. Perform the matrix manipulation

   (a) $\boxed{\text{2 points}}$ Generate a random matrix A of dimension 10×10. Then modify the matrix A to obtain matrix B by (a) replacing the 8th column elements to 0 (b) assigning the 2nd row element to 1.

   Answer: I used the *rand* command to generate the matrix with random numbers, sine the type of value to fill the matrix with was not specified in the task. I then altered the 8th column to contain zeros and the 2nd row to contain ones as seen in my source code for this task.

Image processing using Matlab

2. Perform the following image processing operation on the images

   (a) $\boxed{\text{2 points}}$ Assume that there are 2 images in the folder named images-db. Write a Matlab program to read and display all images in the folder images-db. Note: you can choose any images of your choice with jpg format..

   Answer: I used *dir* to get the information of the files in the folder before applying a for-loop to read and show the images. I choose to show them in separate figures since the task did not specify the result of displaying the images (see the source code for this task).

   (b) $\boxed{\text{2 points}}$ Read the image I from the folder and show the result of Sobel and Canny edge detectors. Note: you can choose any images of your choice.

   Answer: I used *dir* to get the information of the files in the folder before converting the chosen image from RGB to a gray-scale to be able to use the *edge* function to analyse the edges (see source code).

3. Formulate your self-assessment on how well you managed the tasks provided in this practical. Don't hesitate also comment on what you did liked and what you would missed to be discussed.

   Answer: I managed the tasks at an okay pace and level. However, the MATLAB syntax is still a bit new to me and I am still working on writing better and more efficient code. The use of images was entirely new to me so I spent some time figuring out how to best present the results. If there are better ways of solving these tasks I would appreciate to be informed about them.

   (a) $\boxed{\text{4 points}}$ Upload a zip-file with your source code to Blackboard!