Assignment No. 1
CS-477 –Computer Vision
Deadline: 18th Oct 2023

Fall 2023

Author 1: Name: _____ CMS No.: _____

Author 2: Name: _____ CMS No.: _____

Note: Submit the solution of the assignment in soft form and MATLAB/python files on LMS.

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1. Select any image and apply Gaussian filtering, box filtering and median filtering. Analyze the resultant images and provide comments on it.
2. Take any image and detect the edges using Sobel and Perwitt Kernels. Investigate and analyze both sets of resultant images.
3. Take a colored image and provide its grayscale and binary representations.
4. Select any image and perform the following transformations: rotation, scaling and shearing.
5. Suppose you are given an image and tasked with detecting edges using the RANSAC method. Outline the steps you would follow to solve this problem.

Instructions: You are not allowed to utilize built-in libraries to complete these tasks.

Authors Contributions. Mention each author's contribution at the end of each question (**Mandatory**).

Author 1.
Author 2.

Grading scheme:

- Q1: 10 Marks
- Q2: 10 Marks
- Q3: 10 Marks
- Q4: 10 Marks
- Q5: 10 Marks
- Total: 50 marks

Copying. Copying is highly discouraged and it will lead to **a significant loss (90-95 %) of marks.**

* Copying includes using sentences, variables, code, formats from others and AI tools. Discussion is appreciated, but attempt the tasks on your own (which would make it look original).

Submission

- Submit the assignment through LMS in pdf format along with zipped folder of python/Matlab files (also the input/output images).
- File name must include the authors name as below;

Sara Ali_Ahmed Raza.zip