DIGITAL IMAGE PROCESSING COURSE - 505060
PRACTICE LABS

LAB 06-07. MOTION DETECTION APPLICATION

Requirements

(1) Follow the instructions with the help from your instructor.
(2) Finish all the exercises in class and do the homework at home. You can update your solutions after class and re-submit all your work together with the homework.
(3) Grading
Total score = 50% * Attendance + 50% * Exercises
Rules:
- If the number of finished exercises is less than **80% total number of excercises**, you will get **zero** for the lab.
- Name a source file as "**src_XX.py**" where XX is the exercise number, for ex., "src_03.py" is the source code for the Exercise 3.
- Add the text of your Student ID to each of the output image.
- Name an output image as "**image_XX_YY.png**" where XX is the exercise number and YY is the order of output images in the exercise, for ex., "image_03_02.png" is the second output image in the Exercise 3.
- Submit the source code and output image files directly to Google classroom assignment, donot compress the files.

If you submit the exercises with wrong rules, you will get **zero** for the lab or the corresponding exercises.

(4) Plagiarism check
If any 2 of the students have the same output images, then all will get zero for the corresponding exercises.

INTRODUCTION

In this Lab, you will apply some image processing techniques to build an application for detecting motion in videos, such as:

- Motion estimation
- Frame differencing
- Thresholding

INSTRUCTIONS

Look at article in the reference links below to learn more about the steps to build MOTION detection model using OpenCV and Python.

References:

- https://www.geeksforgeeks.org/webcam-motion-detector-python/
- https://www.analyticsvidhya.com/blog/2022/03/vehicle-motion-detection-using-background-subtraction/

EXERCISES

Ex1. Build the applications to detect motion as in the two above articles in the INSTRUCTIONS section. Use your webcam or video files as inputs.

Submit your code in practice class.