



Assignment 2

CS477 – Computer Vision

Deadline: 3rd December, 2023

Fall 2023

Do the following task. This assignment should be submitted individually.

Task 01:

Implement the SIFT algorithm from scratch in Python/MATLAB. Apply your implementation to a pair of images and find correspondences between keypoints.

Task 02:

Discover the methods of image stitching and stitch any two images.

Submission Guidelines:

1. Submit the code for each task.
2. Provide a report documenting your experiments, including images showing the results of applying each method.
3. Submit the assignment through LMS in pdf format along with zipped folder of python/MATLAB files (also the input/output images).
4. File name must include the author's name and registration number as below;

MohsinKamal_123456.zip

Notes:

1. Submit the solution of the assignment in soft form and MATLAB/python files on LMS.
2. You are encouraged to use standard image processing libraries (e.g., OpenCV) for low-level operations (e.g., image loading, convolution). However, the core algorithms should be implemented from scratch.
3. Avoid using pre-built functions for the core components of the algorithms.
4. Provide comparisons between your implementations and the results obtained using established libraries/functions where applicable.
5. Ensure your code is well-commented and organized.
6. 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. Discussion is appreciated, but attempt the tasks on your own (which would make it look original).