UCS532: Computer Vision

Assignment 1:

Submission Deadline: 14th Sep. 2025 EOD.

Total Marks: 10

Implement the following Computer Vision Algorithms using MATLAB/OpenCV/Python/Or any other Platform.

1. Scale Invariant Feature Transform (SIFT) Algorithm. [2]
2. Find the corners inside the image using Harris corner detection and try to stich the two images (Image mosaicing) [2]
3. Design a GUI Interface using MATLAB for Image Enhancement/Restoration Techniques. [2]
4. Apply Haar cascade Algorithm to detect different objects like person, vehicle, clocks etc. [2]
5. Line Detector: Hough Transform (Global Thresholding) Algorithm. [2]

Note:

1. ***All Algorithms must be submitted in a single word/pdf file with following sections: Brief Introduction about algorithm along with Steps of algorithm, output snapshot, etc.***

2. ***Upload the MATLAB/OpenCV/Python code file to your Google Drive and include the shared drive link in the PDF file with full access permissions. Submissions with restricted access will be considered incomplete.***