

#### ADIPCV-2020 ASSIGNMENT-4

/\* Dominant Color transfer \*/

A dominant color of a segment or region of an image is the maximal mode of density function in the 2-D chromaticity space (hue and saturation or their equivalent entities in a color space) within that region.

- (a) Write a function which estimates the dominant color given an axis-parallel rectangular region of a color image. 20
- (b) Read a source image and a target image, and display them. 10
- (c) Interactively specify a rectangular region on the source image using a GUI. 10
- (d) Show the pixels of dominant colours of the specified region by marking them white in a separate window.10
- (e) Compute the dominant color pixels of the a region of the target image (selected using GUI) and display them in a separate window.20
- (f) Transfer the dominant color of the source region to the target region and display the end result. 20
- (g) Provide your results on the attached images taking one of them as source and the other as the target image. In particular, you have to transfer of colours of a flower from a source image to a target image. 10

Submit your codes, results, a README file for running the codes and a write-up describing the implementation and observations.

For well organised reporting and coding (Bonus) – 10.

You may implement your programs in C++-OpenCV/MATLAB/ Python with necessary user's interfaces and visualization of your results and input.

Please provide a documentation for compiling and running the programs in a README file. The whole project should be submitted in a single tar or zip file.