

## COMPUTER SCIENCE AND ENGINEERING

## Indian Institute of Technology Palakkad

CS5657: Geometric Computer Vision

Lab 1: Installation and Simple Image Manipulation

**Note**: It is better to have your system or laptop to do your assignments. If you don't have one, inform me during the first lab.

## 1. Set Up Basic Packages

- We will use Python for our labs and assignments. There are many ways to install/use it. Some commonly used sources include *Anaconda/Miniconda*, *Colab*, and *Jupyter*, among others.
- Install *OpenCV* and *PIL* (*Pillow*). These two are essential for image processing and vision-related tasks.

## 2. Basic Image Processing

- Read the two images (image1.jpg & image2.jpg). What are the sizes of the matrices?
- The original image pixel values are in integer format. Find the minimum and maximum values. Normalize the pixels to a range of 0 to 1 with double precision format.
- Add the two images together and renormalize the values.
- Rescale the values to a range of 0 to 255 and save the final image.