Image Understanding and Processing (OpenCv-Python)

Lab Exercise – 07

Year 4 **Semester 1, 2025**

Goal

- Use Python Imagining Library (PIL)
- Importing Image, ImageFilter and ImageOps modules from PIL package
- Create an Image object
- Apply Min and Max filter
- Apply Grayscale and Edge detection methods

PIL is the Python Imaging Library which provides the python interpreter with image editing capabilities. The ImageFilter module contains definitions for a pre-defined set of filters, which can be used with the Image.filter() method. The ImageOps module contains a number of 'ready-made' image processing operations.

- ImageFilter.MinFilter() method creates a min filter which picks the lowest pixel value in a window with the given size.
- ImageFilter.MaxFilter() method creates a max filter which picks the largest pixel value in a window with the given size.
- ImageOps.grayscale() method convert the image to grayscale. The complete pixel turns to gray; no other color will be seen.
- ImageFilter.Kernel creates a 3 x 3 Kernel and runs the edges on top of the image.