# Department of Computing

**EE433: Digital Image Processing**

**Class: BSCS 6**

# Lab 6: Image Enhancement (Open Ended)

**Date: 6th  March 2019**

**Time: 10 am -1 am**

# Instructor: Dr Khawar Khursheed

# 

# Lab 6: Image Enhancement

**Introduction**

This lab will provide you an introduction to Image enhancement.

**Objectives**

In this exercise you try to improve the quality of an image by applying any of the technique of image enhancement you have studied so far.

**Tools/Software Requirement**

Python 2.7

**Description**

Image enhancement is the procedure of improving the quality and the information content of original data before processing. The common techniques which you have studded include:-

▪ Point Processing  
▪ Neighborhood Processing  
▪ Global Image Enhancement  
▪ Contrast Stretching

▪ Histogram Equalization

▪ Spatial filtering

**Task**

Follow the following steps:-

1):- Select a washed out Image of your own choice which needs enhancement (basically a low contrast Image)

2):-Now think of an appropriate technique of Image enhancement that can improve the visual quality of your Image. This step needs you to brainstorm and recall your theoretical concepts of digital Image processing.

**Note: -** You may use any of the technique of your choice but the choice should be backed up by scientific reasons. You may also use couple of techniques together to achieve the desirous results rather than using one.

3):-Third step is to implement that chosen technique and apply it on chosen image.

**Note: -** You may use Libraries of python including:-

* Pill/Pillow
* Numpy
* OpenCV
* Matplotlib
* Scikit-Image
* Scipy

4):- Discus the output with your instructor.

5):- Plot the histogram of Original Image and resultant Image.

**Deliverable**

Hand in the source code from this lab at the appropriate location on the blackboard system at LMS.

**Note: -**

Purpose of this lab is to polish your problem solving skills pertaining to digital Image processing and overall and let you think out of the box. Please keep that in mind that you are strictly not allowed to copy any of the part of lab from any of your classmates You are expected to use your brain and you may seek help from lectures, web or lab engineer.