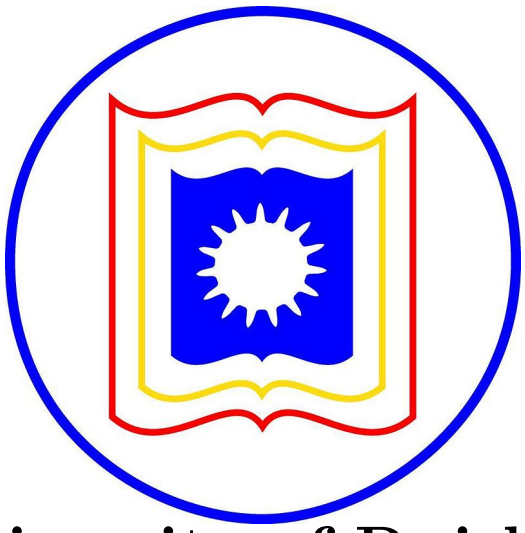

# University of Rajshahi

Department of Computer Science & Engineering

**CSE4182 - Digital Image Processing Lab**

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## Abstract

This is a notebook for Digital Image Processing Lab. This will contain all the assignments and their explanations.

# Contents

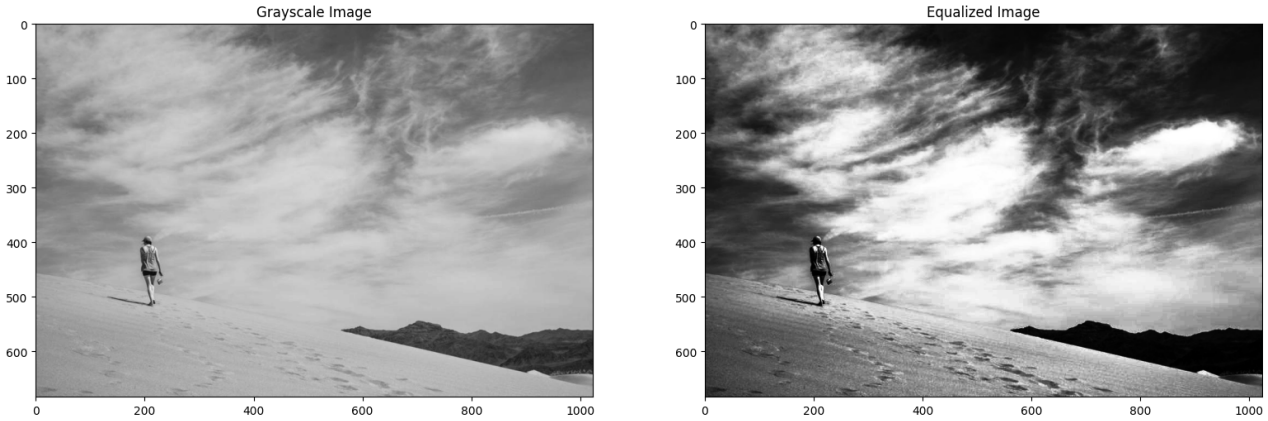
# Chapter 1

# Assignment 10

## 1.1 Histogram Equalization

Histogram Equalization is an image processing technique that adjusts the contrast of an image by using its histogram. To enhance the image's contrast, it spreads out the most frequent pixel intensity values or stretches out the intensity range of the image.

### 1.1.1 Equalized Image vs Pre-processed Image




If you compare the two images above, you will find that the histogram equalized image has better contrast. It has areas that are darker as well as brighter than the original image.

### 1.1.2 Histogram Equalization Implementation

We are using cv2.equalizeHist() built-in function to equalize our image. It takes an initial image and returns the equalized image.

```
image = cv2.equalizeHist(initialImg)
```

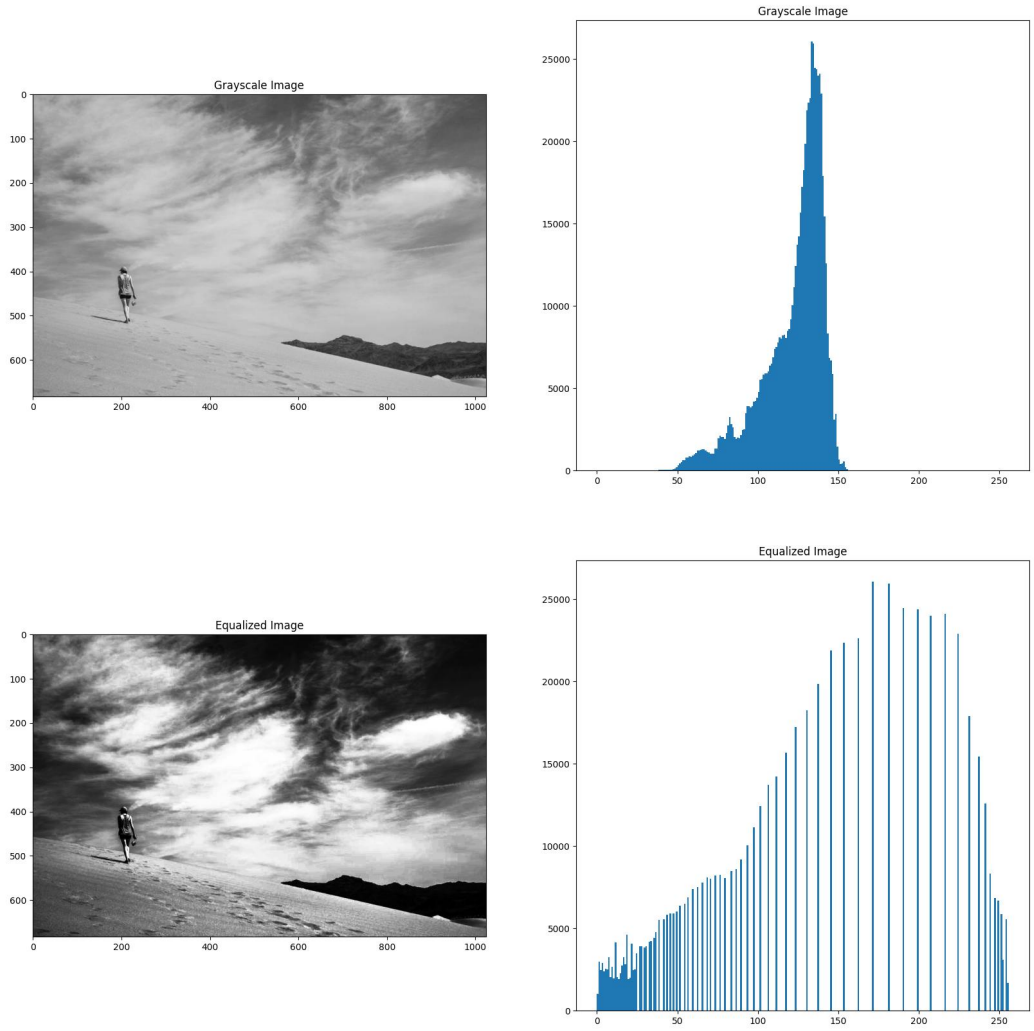



Figure 1.1: Histogram comparison between equalized and normal image

Unlike the original image histogram, the pixel intensity values now range from 0 to 255 on the X-axis for the equalized image. As a result, the image is now looking better than before.