DEPARTMENT OF ROBOTICS & MECHATRONICS ENGINEERING

University of Dhaka

Course : Digital Image Processing an Robot Vision

Course Code : 4112

Lab Task 1 : Image Histogram Analysis

Submitted by: Syed Nazmus Sakib

AE-172-009

Submitted to: Md Mehedi Hasan

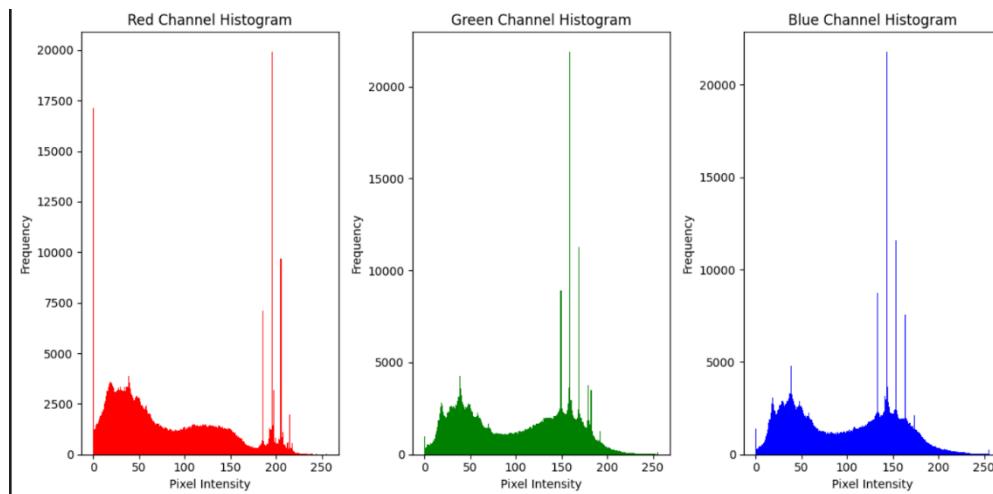**Assistant Professor**

Robotics and Mechatronics Engineering

University of Dhaka

Date of Submission: 28.10.2025

Grayscale: Image1.jpg

RGB Image: Image1.jpg

Red Channel Histogram

Green Channel Histogram

Blue Channel Histogram

The Single-Color Histogram Shows most of the pixel intensity lies within o to 5000 frequency and three of the color Channel Shows a spiked peak intensity frequency for a narrow band and goes to 20000 for 180 to 220 pixel values and for green its 150 to 200 pixel values and for Blue Channel its between 140 to 180 when pixel intensity peaked.

For Grey Scale image it spiked at 150 from 200 for a very narrow band.
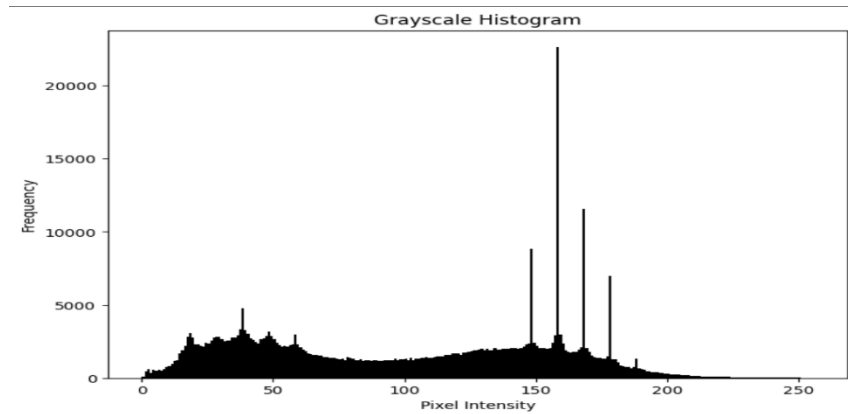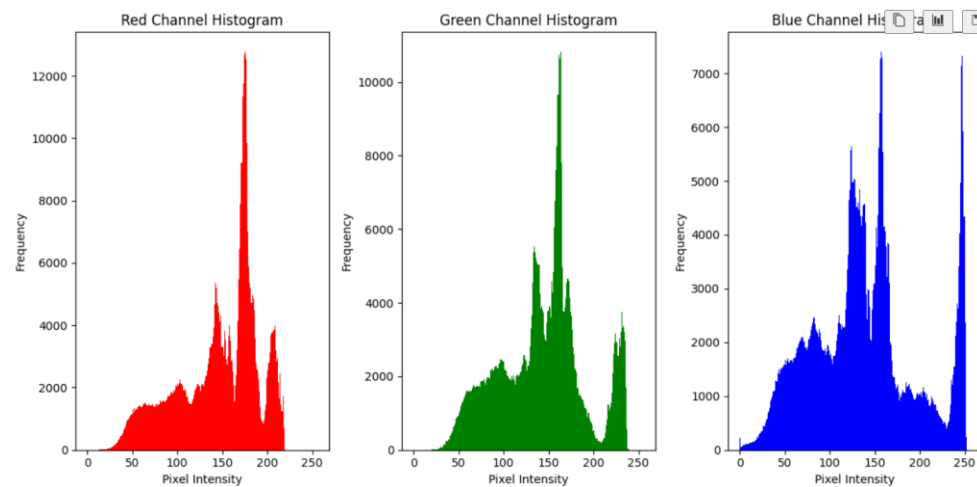
Grayscale Histogram

Image - 2

RGB Image: Image2.jpg

Red Channel Histogram
Green Channel Histogram
Blue Channel Histogram

In the single-color histogram, the majority of pixel values fall within the range of 0 to 5000. The red and blue channels exhibit narrow peaks at 180–220, while green peaks at 150–200. The grayscale histogram shows a spike at 150, with a very tight range of 200.
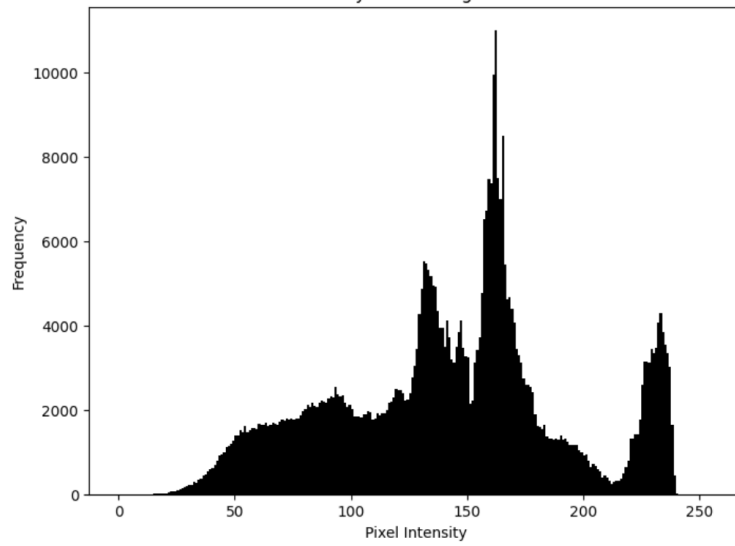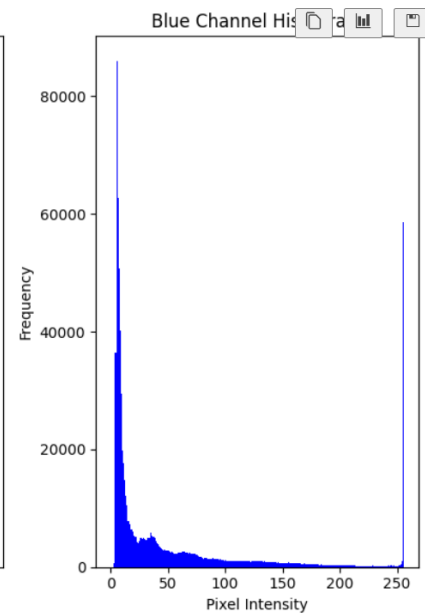
Grayscale: Image2.jpg
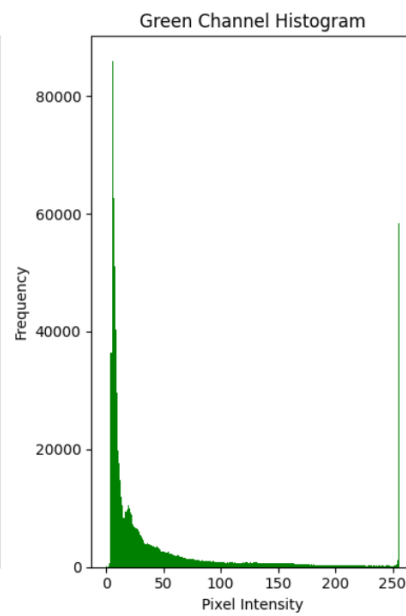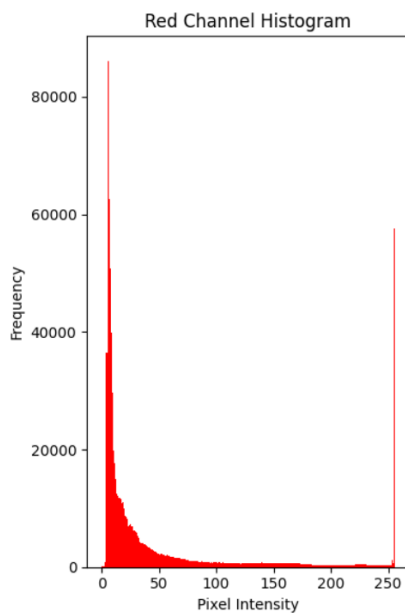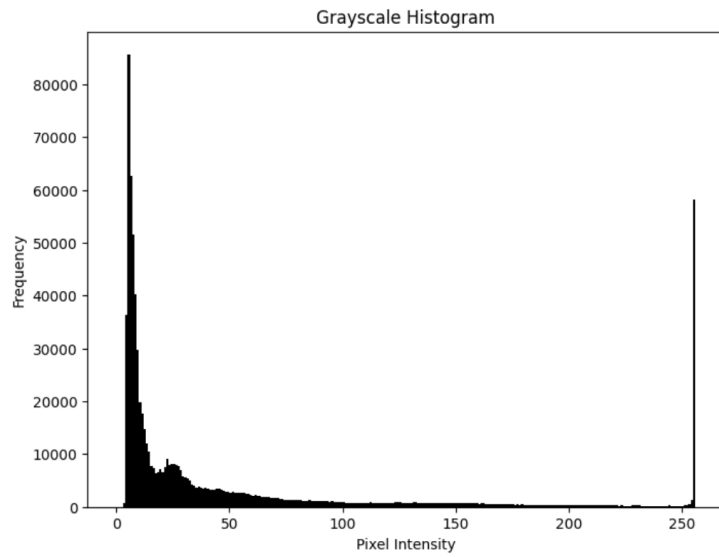

Grayscale Histogram

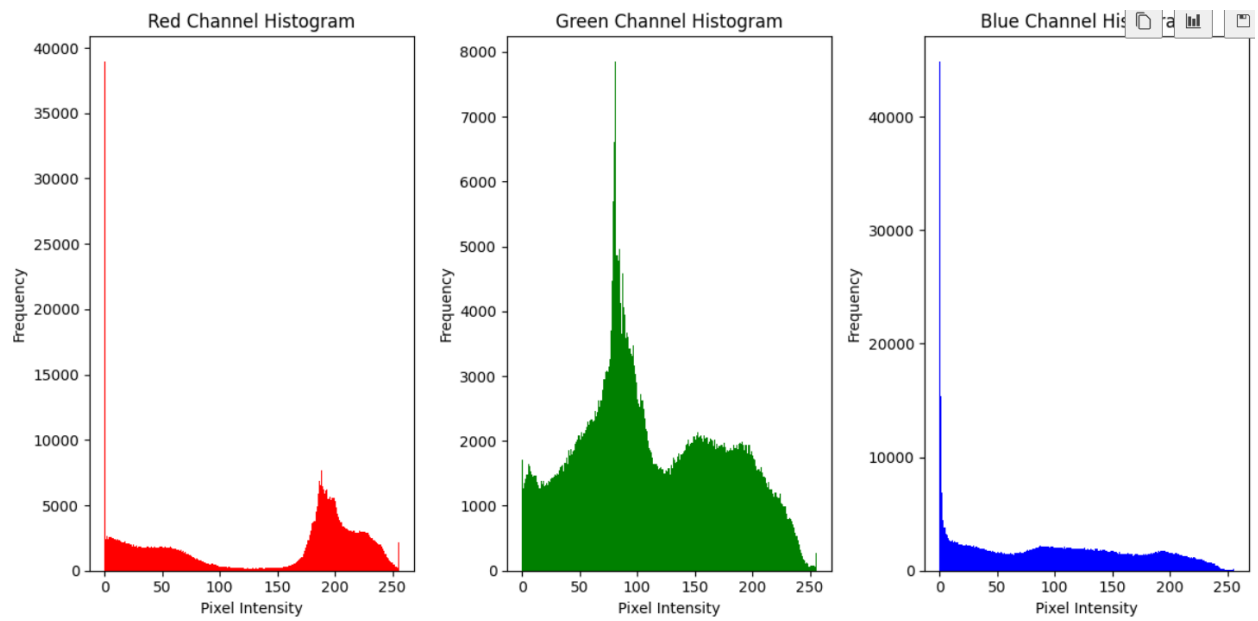## Image – 3

Grayscale: Image3.jpg

The Overall images pixel values were in a small band and it spiked showing some sudden changes in the change and not a very smooth transitions over the image.

Image – 4

RGB Image: Image4.jpg

Red Channel Histogram

Green Channel Histogram

Blue Channel Histogram

Grayscale: Image4.jpg

Grayscale Histogram

For a really really small pixel band like between 80 to 100 the pixel intensity spiked and overall the Pixel values were al most in the same range.

Image - 5

RGB Image: Image5.jpg

The Overall images pixel values were in a small band and it spiked twice showing some sudden changes in the change and not a very smooth transitions over the image.

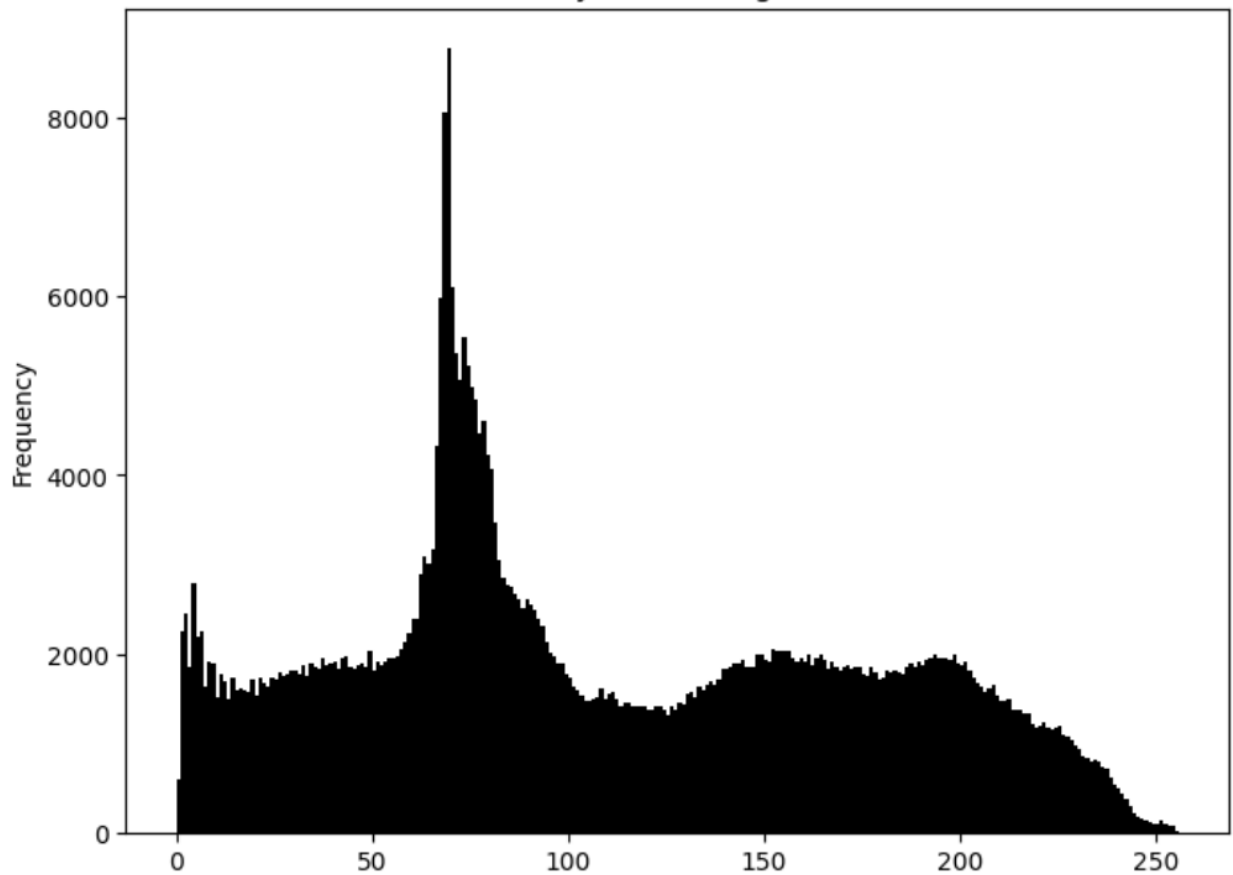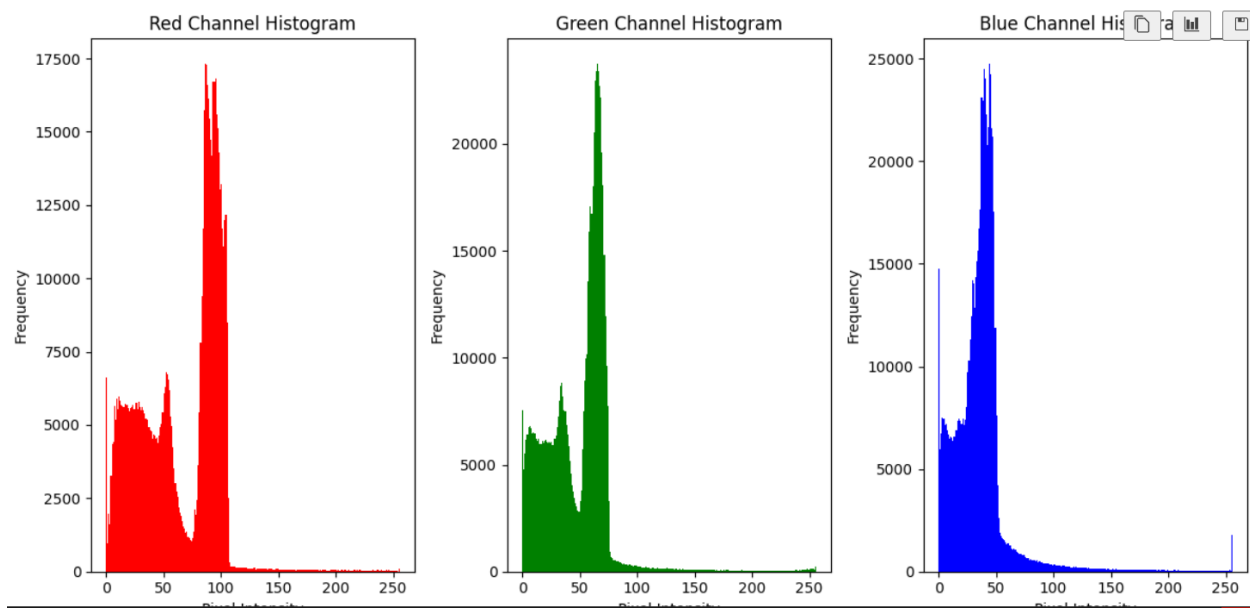Red Channel Histogram Green Channel Histogram Blue Channel Histogram

Grayscale: Image5.jpg

Grayscale Histogram