

ITA0520 – Computer Vision For Image Analysis

Name: Aryan.KS(192325051)

Experiment 5:

Write a Python function to analyze the histogram of the given input image based on color levels using Open CV.

Code:

```
import cv2

import matplotlib.pyplot as plt

def analyze_color_histogram(image_path):
    image = cv2.imread(image_path)
    print("✅ Image loaded successfully")
    b, g, r = cv2.split(image)
    plt.figure(figsize=(10, 6))
    plt.hist(b.ravel(), bins=256, range=(0, 256), color="blue", alpha=0.6, label="Blue")
    plt.hist(g.ravel(), bins=256, range=(0, 256), color="green", alpha=0.6, label="Green")
    plt.hist(r.ravel(), bins=256, range=(0, 256), color="red", alpha=0.6, label="Red")
    plt.title("Color Histogram Analysis")
    plt.xlabel("Pixel Intensity")
    plt.ylabel("Frequency")
    plt.legend()
    plt.show()

analyze_color_histogram("Person.jpg")
```

Output:

