

## ITA0520 – Computer Vision For Image Analysis

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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:

