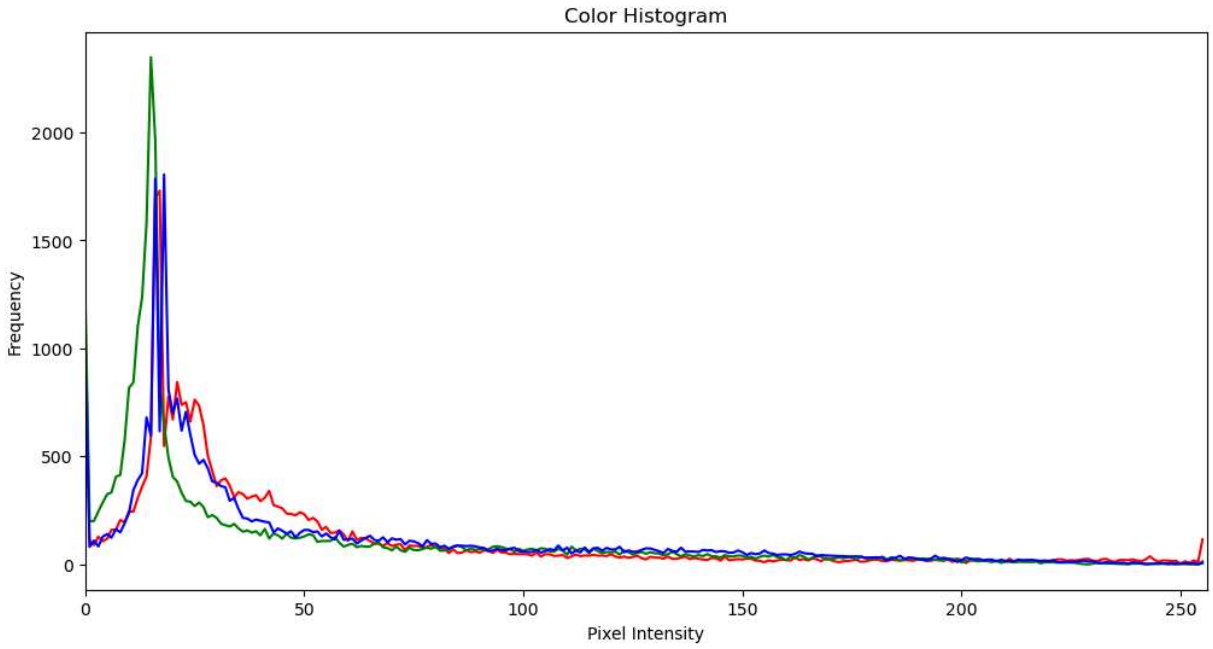
In [1]:
```
import cv2
import numpy as np
import matplotlib.pyplot as plt
from skimage import io
```

In [2]:
```
# Load the image
image_path = "image.jpg" # Replace with your image path
image = cv2.imread(image_path)
image_rgb = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
```

In [3]:
```
# Feature 1: Color Histogram (RGB Channels)
def plot_color_histogram(image):
    color = ('r', 'g', 'b')
    plt.figure(figsize=(12, 6))
    for i, col in enumerate(color):
        hist = cv2.calcHist([image], [i], None, [256], [0, 256])
        plt.plot(hist, color=col)
        plt.xlim([0, 256])
    plt.title('Color Histogram')
    plt.xlabel('Pixel Intensity')
    plt.ylabel('Frequency')
    plt.show()
```

In [4]:
```
# Feature 2: Texture Analysis (GLCM - Gray Level Co-occurrence Matrix)
def plot_glcm_texture_features(image):
    # Convert to grayscale
    gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)

    # Calculate GLCM
    glcm = greycomatrix(gray, distances=[1], angles=[0], levels=256, symmetric=True

    # Extract texture features
    contrast = greycoprops(glcm, 'contrast')[0, 0]
    dissimilarity = greycoprops(glcm, 'dissimilarity')[0, 0]
    homogeneity = greycoprops(glcm, 'homogeneity')[0, 0]
    energy = greycoprops(glcm, 'energy')[0, 0]
    correlation = greycoprops(glcm, 'correlation')[0, 0]

    # Plot Texture Feature Values
    texture_features = [contrast, dissimilarity, homogeneity, energy, correlation]
    feature_names = ['Contrast', 'Dissimilarity', 'Homogeneity', 'Energy', 'Correla

    plt.figure(figsize=(12, 6))
    plt.bar(feature_names, texture_features, color='skyblue')
    plt.title('Texture Features using GLCM')
    plt.xlabel('Texture Feature')
    plt.ylabel('Value')
    plt.show()
```

In [5]:
```
# Plot color histogram
plot_color_histogram(image_rgb)
```


Color Histogram
Frequency
Pixel Intensity
0
500
1000
1500
2000
0
50
100
150
200
250