

Object detection using HSV color space

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In [6]: import cv2
import numpy as np
import matplotlib.pyplot as plt

image=cv2.imread(r'./CoverImages/hsvcolor.png')

image_rgb=cv2.cvtColor(image,cv2.COLOR_BGR2RGB)
hsv_image=cv2.cvtColor(image,cv2.COLOR_BGR2HSV)

lower_red1=np.array([0,100,100])
upper_red1=np.array([10,255,255])
lower_red2=np.array([160,100,100])
upper_red2=np.array([179,255,255])

mask1=cv2.inRange(hsv_image,lower_red1,upper_red1)
mask2=cv2.inRange(hsv_image,lower_red2,upper_red2)
mask=cv2.bitwise_or(mask1,mask2)

result=cv2.bitwise_and(image_rgb,image_rgb,mask=mask)

plt.figure(figsize=(12,4))

plt.subplot(1,3,1)
plt.title("Original Image")
plt.imshow(image_rgb)
plt.axis('off')

plt.subplot(1,3,2)
plt.title("Red Mask")
plt.imshow(mask,cmap='gray')
plt.axis('off')

plt.subplot(1,3,3)
plt.title("Detected Red Object")
plt.imshow(result)
plt.axis('off')

plt.tight_layout()
plt.show()
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