

```
In [ ]: import cv2
import numpy as np
from matplotlib import pyplot as plt
```

```
In [ ]: # Load Image
img = cv2.imread('Source/sign.jpg')
img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
img_hsv = cv2.cvtColor(img, cv2.COLOR_RGB2HSV)

plt.imshow(img)
```

Out[]: <matplotlib.image.AxesImage at 0x13246a20dc0>

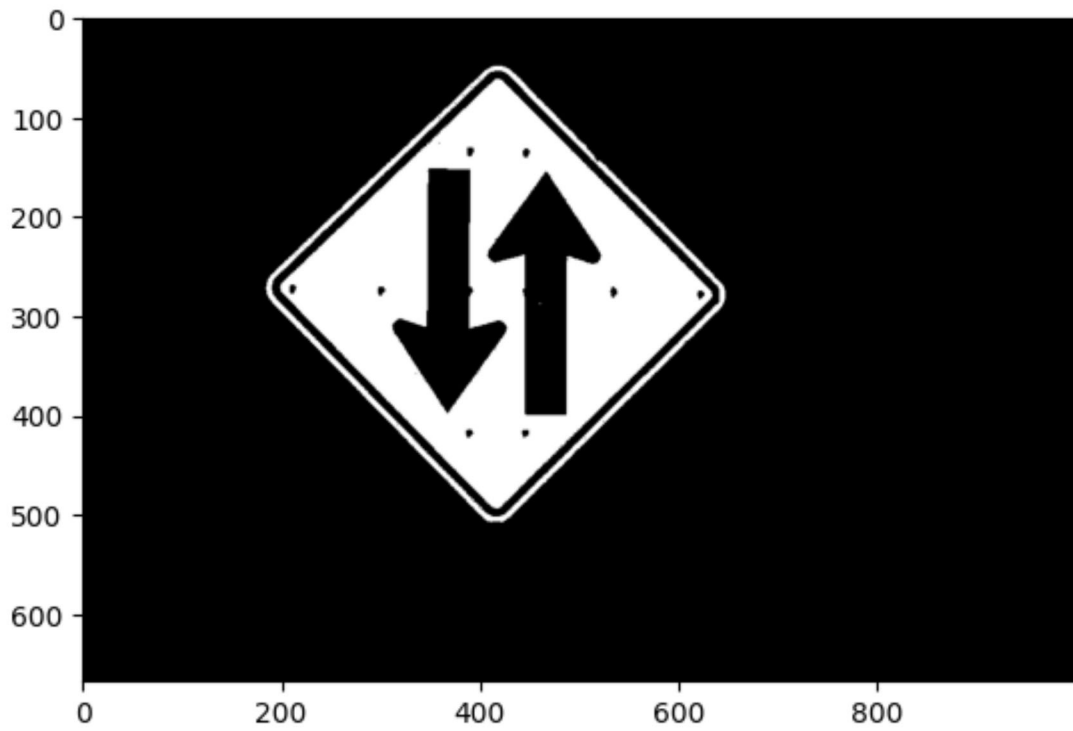


```
In [ ]: # Extract color
upper_sign = (25, 255, 255)
lower_sign = (0, 200, 100)

# Create mask for region
mask_gray = cv2.inRange(img_hsv, lower_sign, upper_sign)
mask = cv2.cvtColor(mask_gray, cv2.COLOR_GRAY2RGB)

# Display
plt.imshow(mask)
```

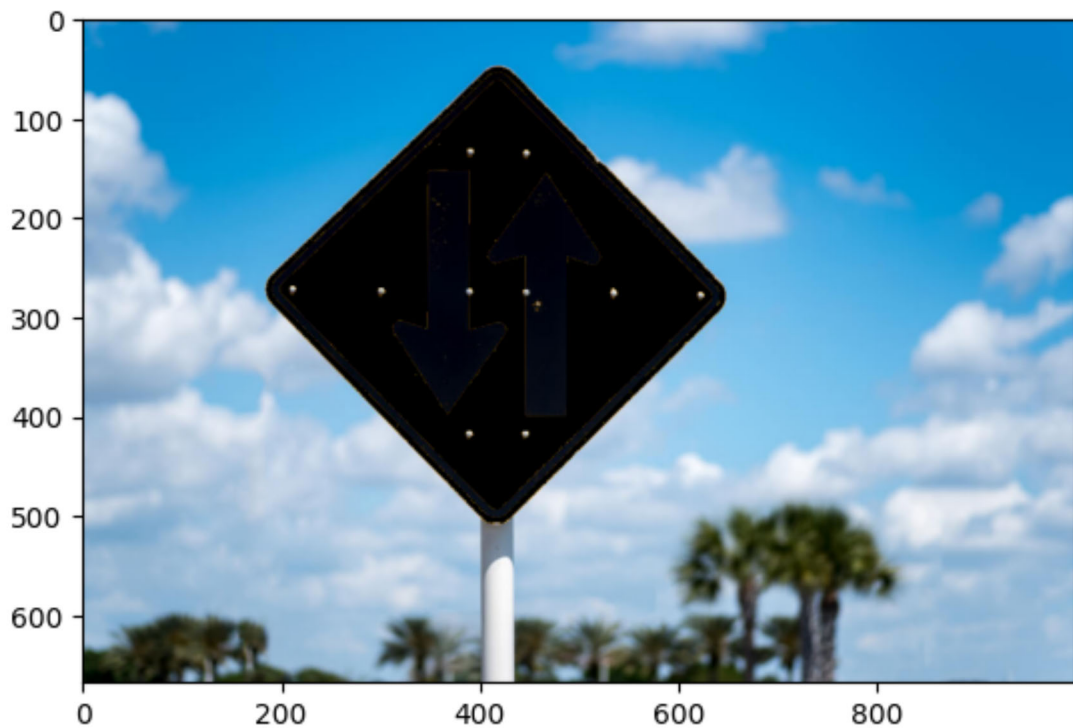
Out[]: <matplotlib.image.AxesImage at 0x1324fb680a0>



```
In [ ]: # Mask out the sign
        outer = cv2.bitwise_not(mask)
        bg = cv2.bitwise_and(img, outer)

        plt.imshow(bg)
```

Out[]: <matplotlib.image.AxesImage at 0x1324ef49e50>

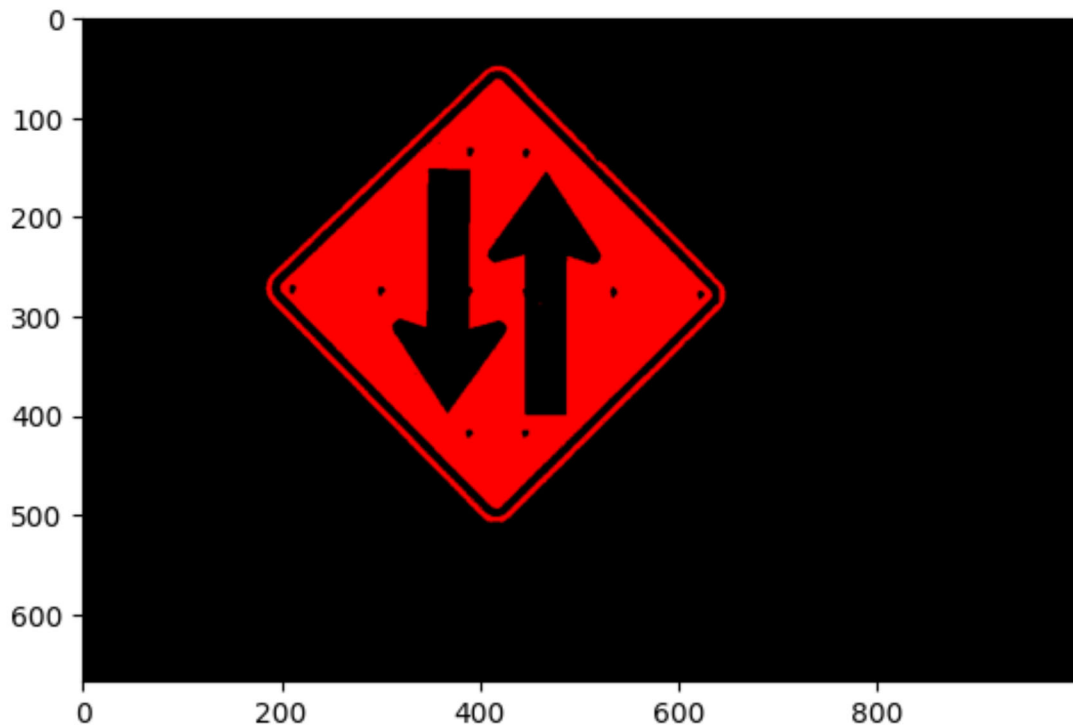


```
In [ ]: # Recolor Sign
        r = np.uint8(mask_gray * 1)
        g = np.uint8(mask_gray * 0)
        b = np.uint8(mask_gray * 0)

        sign_rgb = cv2.merge([r, g, b])
```

```
plt.imshow(sign_rgb)
```

Out[]: <matplotlib.image.AxesImage at 0x1324efa7580>



```
In [ ]: # Combine image
result = bg + sign_rgb

# Display
plt.figure(figsize= (15, 15))
plt.subplot(1, 2, 1)
plt.imshow(img)

plt.subplot(1, 2, 2)
plt.imshow(result)

plt.show()
```



In []: