

IBM Project Name: Real-Time Communication System Powered by AI for Specially Abled

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Importing req. lib.

import cv2 import

numpy as np

import matplotlib.pyplot as plt

Image processing #

Create a image

img1 = np.zeros((400,600,3),np.uint8) plt.imshow(img1)

Drawing Functions

Draw a circle

circle = cv2.circle(img1, (300,200), 50, (255,0,0), -1) # (0,0,0)--->(R,G,B)

plt.imshow(img1) # Drawing rectangle

rectangle = cv2.rectangle(img1,(200,100),(400,300),(0,255,0),6)

plt.imshow(img1) # Drawing line

```
line1 = cv2.line(img1,(200,100),(400,300),(0,0,255),4) line2 =
```

```
cv2.line(img1,(200,300),(400,100),(0,0,255),4)
```

```
plt.imshow(img1)
```

```
circle = cv2.circle(img1, (300,200), 50, (255,255,0), -1)    # (0,0,0)--->(R,G,B)
```

```
plt.imshow(img1) # Text on image
```

```
text = cv2.putText(img1, 'openCV', (200,50), cv2.FONT_HERSHEY_SIMPLEX, 2, (255,255,255),5)
```

```
plt.imshow(img1) # Reading the image
```

```
img = cv2.imread('/content/boy.jpg',1) plt.imshow(img)
```

```
# Convert BGR to RGB
```

```
img_rgb = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
```

```
plt.imshow(img_rgb) # Convert BGR to Gray
```

```
img_gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
```

```
plt.imshow(img_gray)
```

```
# Finding shape
```

```
img_rgb.shape (983,
```

```
736, 3)
```

```
img_gray.shape (983,
```

```
736)
```

```
# Resize the image
```

```
resize = cv2.resize(img_rgb,(500,1000))
```

```
print(resize.shape) plt.imshow(resize)
```

```
# Image crop
```

```
crop = resize[130:370,150:300]
```

```
plt.imshow(crop) # Edge
```

```
Detection
```

```
edge = cv2.Canny(img_rgb,100,200)
```

```
plt.imshow(edge) # Blur image
```

```
r = resize[130:370,150:300] blur =
```

```
cv2.GaussianBlur(r,(13,13),cv2.BORDER_DEFAULT)
```

```
plt.imshow(resize) plt.imshow(blur)
```