

Drawing Functions in OpenCV

Goal

- Learn to draw different geometric shapes with OpenCV
- You will learn these functions : `cv.line()`, `cv.circle()`, `cv.rectangle()`, `cv.ellipse()`, `cv.putText()` etc.

Code

In all the above functions, you will see some common arguments as given below:

- `img` : The image where you want to draw the shapes
- `color` : Color of the shape. for BGR, pass it as a tuple, eg: (255,0,0) for blue. For grayscale, just pass the scalar value.
- `thickness` : Thickness of the line or circle etc. If -1 is passed for closed figures like circles, it will fill the shape. *default thickness = 1*
- `lineType` : Type of line, whether 8-connected, anti-aliased line etc. *By default, it is 8-connected.* `cv.LINE_AA` gives anti-aliased line which looks great for curves.

Drawing Line

To draw a line, you need to pass starting and ending coordinates of line. We will create a black image and draw a blue line on it from top-left to bottom-right corners.

```
import numpy as np
import cv2 as cv

# Create a black image
img = np.zeros((512,512,3), np.uint8)

# Draw a diagonal blue line with thickness of 5 px
cv.line(img,(0,0),(511,511),(255,0,0),5)
```

Drawing Rectangle

To draw a rectangle, you need top-left corner and bottom-right corner of rectangle. This time we will draw a green rectangle at the top-right corner of image.