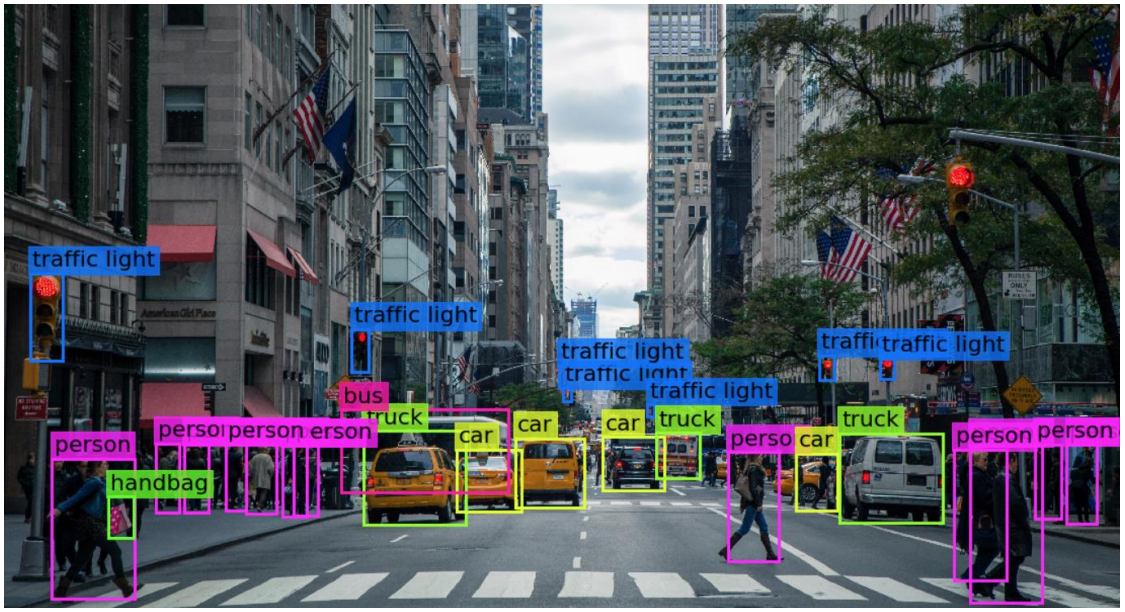

Computer vision in the new era of Artificial Intelligence and Deep Learning

Visión por computador en la nueva era de la Inteligencia Artificial y el Deep Learning

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Gijón (Spain)
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https://github.com/albertofernandezvillan/computer-vision-and-deep-learning-course

OpenCV

Drawing in OpenCV

Notebooks: basic_drawing_opencv.ipynb
drawing_text_and_symbols_in_opencv.ipynb

- basic_drawing_opencv.ipynb
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Basic drawing with OpenCV

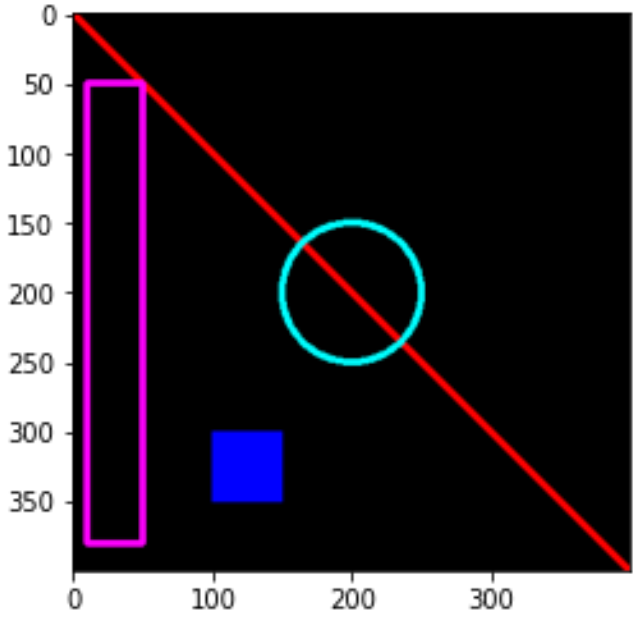
```
import cv2
from matplotlib import pyplot as plt

image = create_canvas()
cv2.line(image, (0, 0), (400, 400), (0, 0, 255), 3)
cv2.rectangle(image, (10, 50), (50, 380), (255, 0, 255), 3)
cv2.rectangle(image, (100, 300), (150, 350), (255, 0, 0), -1)
cv2.circle(image, (200, 200), 50, (255, 255), 3)

plt.imshow(image[:, :, ::-1])
```

```
import numpy as np

def create_canvas():
  canvas = np.zeros((400, 400, 3), dtype="uint8")
  return canvas
```



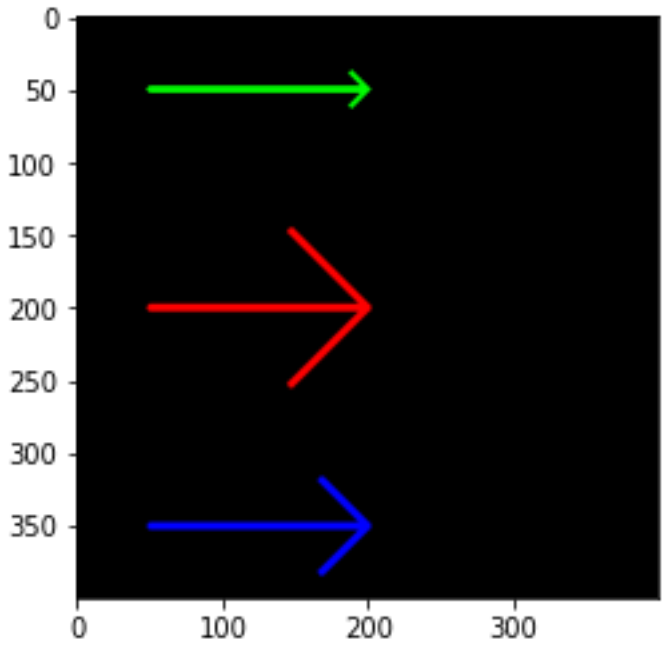
Basic drawing with OpenCV

```
import cv2
from matplotlib import pyplot as plt

image = create_canvas()

cv2.arrowedLine(image, (50, 50),  (200, 50),  (0, 255, 0) , 3)
cv2.arrowedLine(image, (50, 200), (200, 200), (0, 0, 255) , 3, cv2.LINE_AA, 0, 0.5)
cv2.arrowedLine(image, (50, 350), (200, 350), (255, 0, 0) , 3, cv2.LINE_AA, 0, 0.3)

plt.imshow(image[:, :, ::-1])
```



Basic drawing with OpenCV

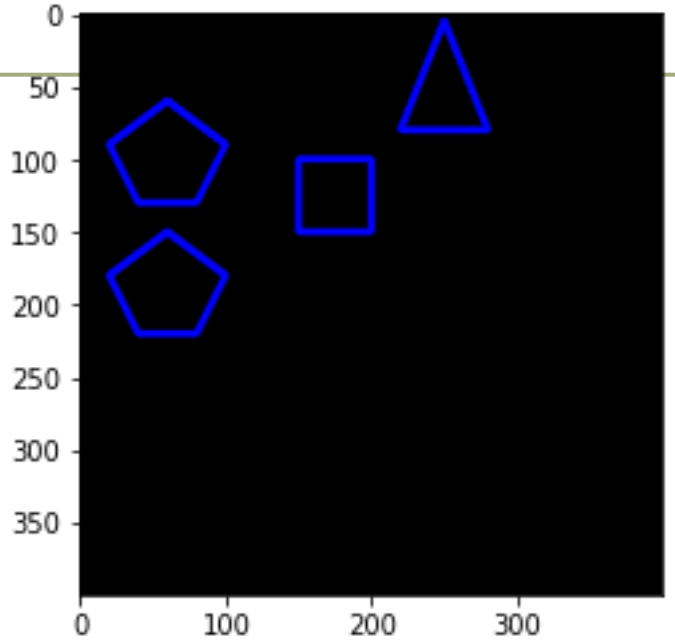
```
import cv2
from matplotlib import pyplot as plt

image = create_canvas()

pts = np.array([[20, 90], [60, 60], [100, 90], [80, 130], [40, 130]], np.int32)
pts2 = np.array([[20, 180], [60, 150], [100, 180], [80, 220], [40, 220]], np.int32)
pts3 = np.array([[150, 100], [200, 100], [200, 150], [150, 150]], np.int32)
pts4 = np.array([[250, 5], [220, 80], [280, 80]], np.int32)

cv2.polylines(image, [pts, pts2, pts3, pts4], True, (255,0,0), 3)

plt.imshow(image[:, :, ::-1])
```



Basic drawing with OpenCV

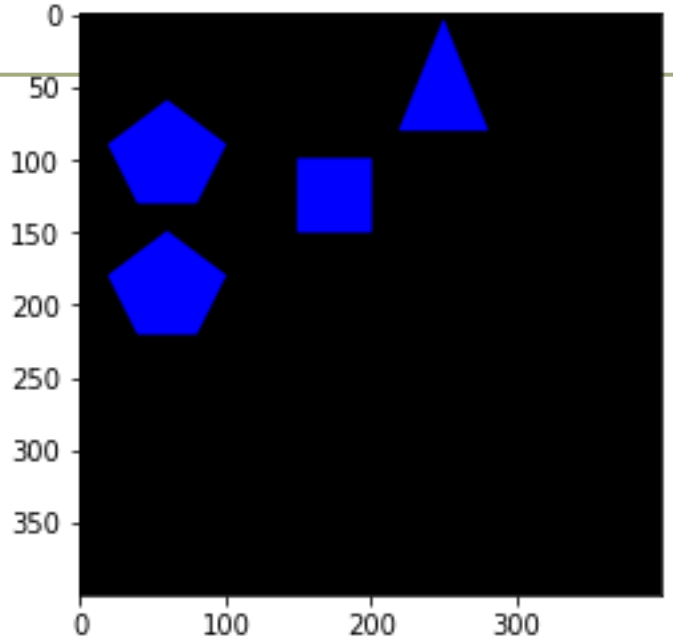
```
import cv2
from matplotlib import pyplot as plt

image = create_canvas()

pts = np.array([[20, 90], [60, 60], [100, 90], [80, 130], [40, 130]], np.int32)
pts2 = np.array([[20, 180], [60, 150], [100, 180], [80, 220], [40, 220]], np.int32)
pts3 = np.array([[150, 100], [200, 100], [200, 150], [150, 150]], np.int32)
pts4 = np.array([[250, 5], [220, 80], [280, 80]], np.int32)

cv2.fillPoly(image, [pts, pts2, pts3, pts4], (255,0,0), cv2.LINE_AA)

plt.imshow(image[:, :, ::-1])
```



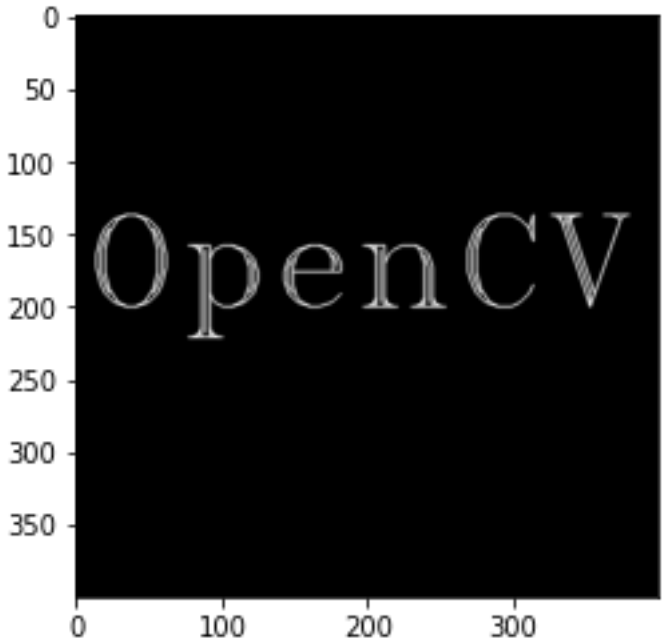
Drawing text with OpenCV

```
import cv2
from matplotlib import pyplot as plt

image = create_canvas()

font = cv2.FONT_HERSHEY_TRIPLEX
cv2.putText(image, 'OpenCV', (5, 200), font, 3, (255,255,255), 1, cv2.LINE_AA)

plt.imshow(image[:, :, ::-1])
```



Drawing marker with OpenCV

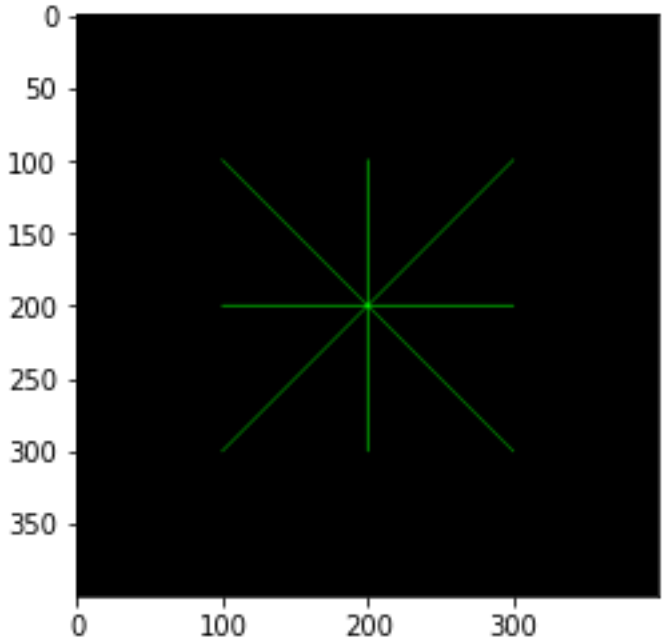
```
import cv2
from matplotlib import pyplot as plt

image = create_canvas()

marker = cv2.MARKER_STAR
print("Marker MARKER_STAR is equals to '{}'".format(marker))

cv2.drawMarker(image, (200,200), (0,255,0), marker, 200)

plt.imshow(image[:, :, ::-1])
```



OpenCV

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