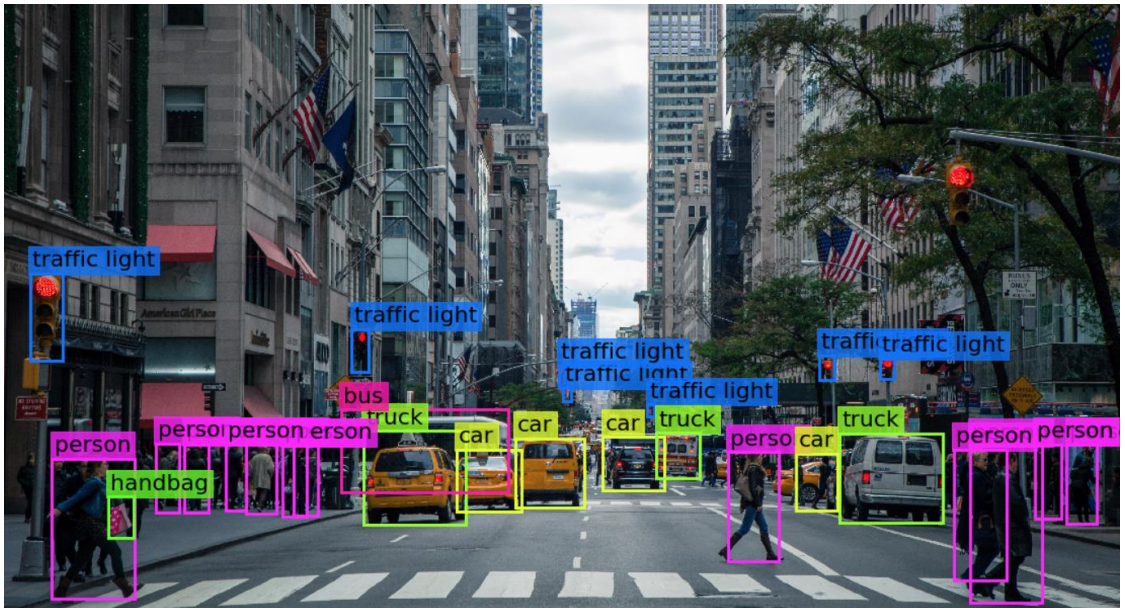

Computer vision in the new era of Artificial Intelligence and Deep Learning

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

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https://github.com/albertofernandezvillan/computer-vision-and-deep-learning-course

OpenCV

Understanding BGR color format in OpenCV

Notebook: bgr_color_format_opencv.ipynb

- bgr_color_format_opencv.ipynb

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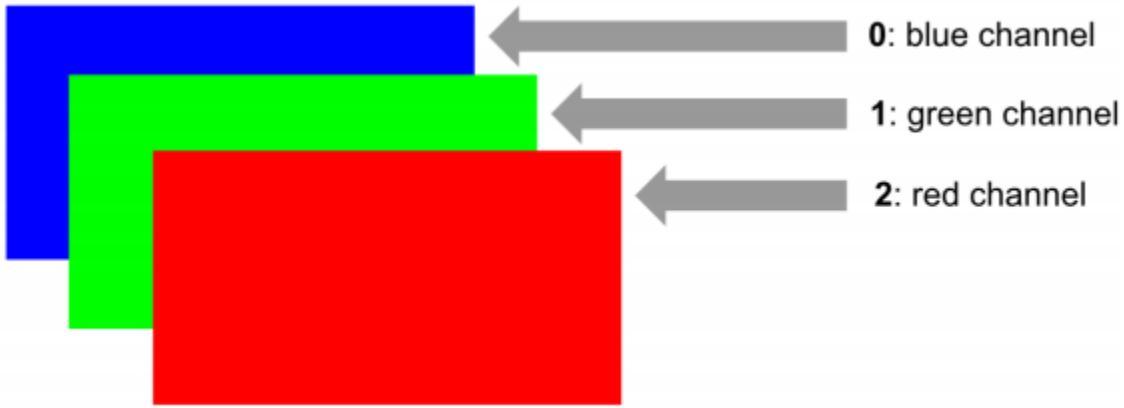
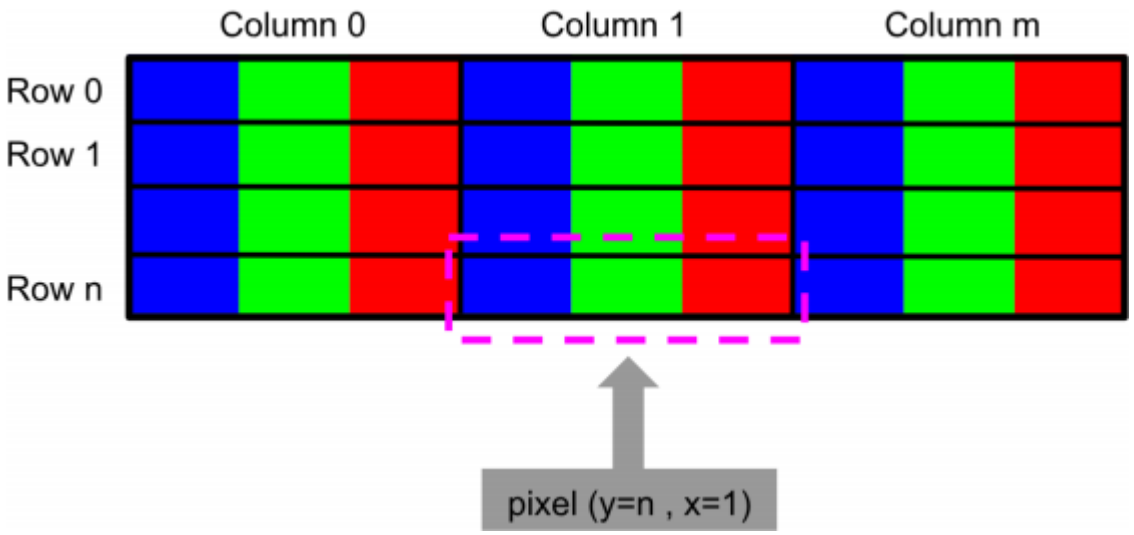
BGR color format in OpenCV

- OpenCV uses BGR color format, while other libraries and packages (e.g. PIL, Matplotlib uses RGB color format). In BGR color format:
  - Blue channel is the first channel (channel 0)
  - Green channel is the second channel (channel 1)
  - Red channel is the third channel (channel 2)



BGR color format in OpenCV

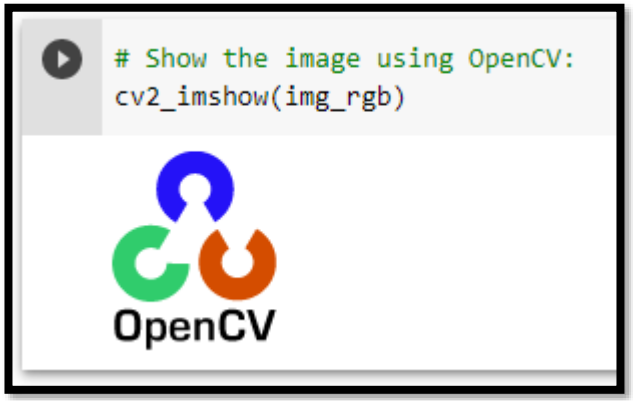
- Accessing one pixel in OpenCV give us three values corresponding to the blue, green and red channels

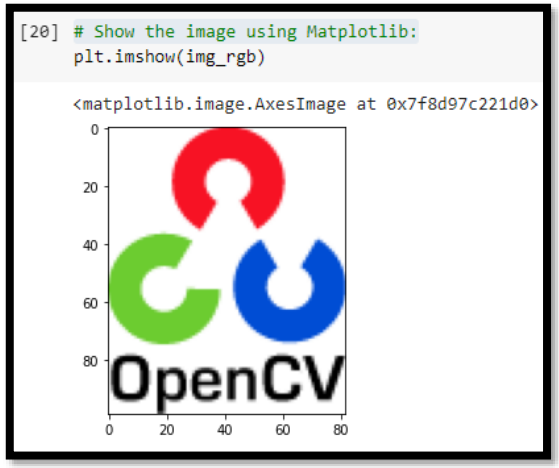


BGR to RGB in OpenCV

- We have several options to convert from BGR to RGB and viceversa
  - Using cv2.cvtColor() method included in OpenCV
  - List slicing to change (reverse) the channels of the image

```
# Converting the loaded image (BGR format) to RGB:
img_rgb = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
```

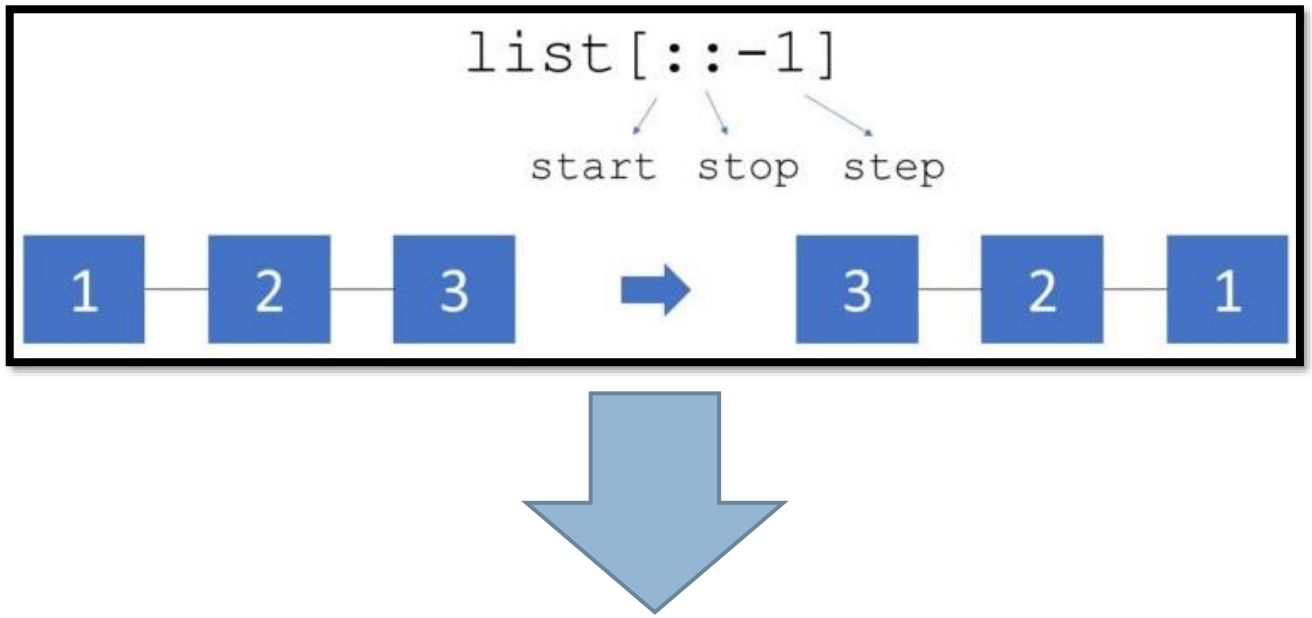




This will show the image in wrong color

BGR to RGB in OpenCV

- List slicing to change (reverse) the channels of the image

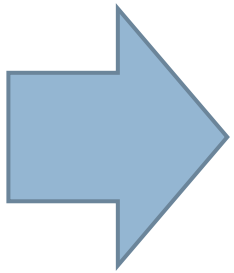



```
# Swap B and R channels in the BGR image to get a RGB color image:
img_rgb = img[:, :, ::-1]
```

img[:, :, ::-1] explanation

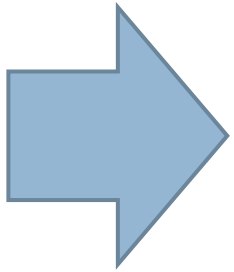
- List slicing to change (reverse) the channels of the image

```
# Load the image in BGR format
img = cv2.resize(cv2.imread("op
encv_logo.png"), (4,1))
```



```
[[[ 48 204 108]
  [255 255 255]
  [212  77   0]
  [212  77   0]]]
```

```
# Swap B and R channels in the
BGR image to get a RGB color im
age:
img_rgb = img[:, :, ::-1]
print(img_rgb)
```



```
[[[108 204  48]
  [255 255 255]
  [  0  77 212]
  [  0  77 212]]]
```

OpenCV

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