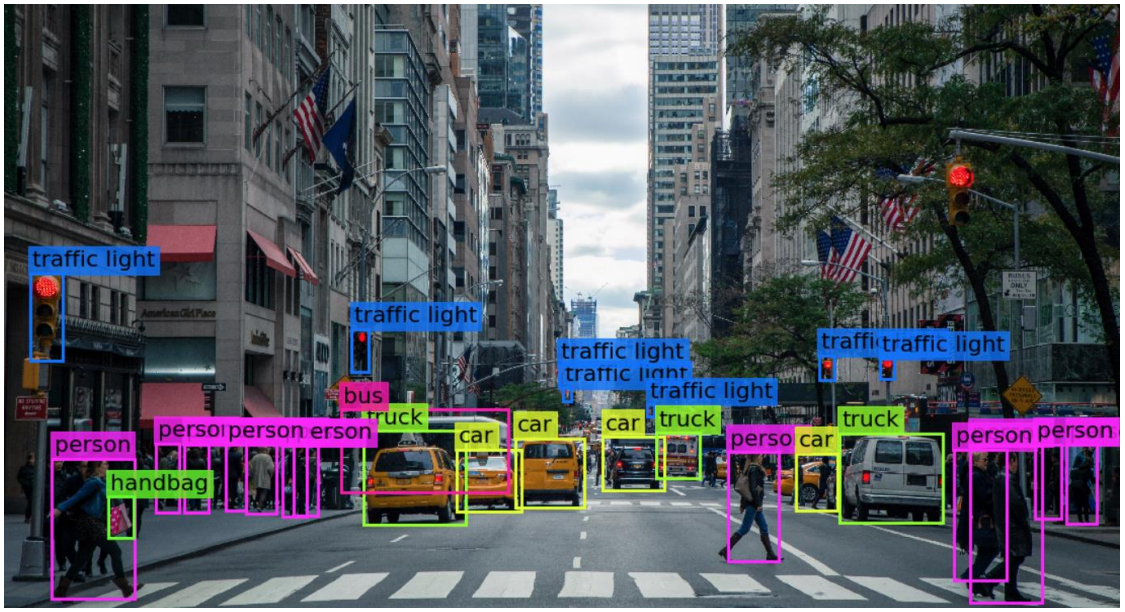

Computer vision in the new era of Artificial Intelligence and Deep Learning

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

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5 – 16 April 2021

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

Google Colab

Installing and using Colab utilities

- colaboratory_utils.ipynb

- colaboratory_utils.ipynb

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Introduction

colaboratory-utils repository contains Python stuff for Google Colab notebooks. Most of this stuff is taken from this repository
This repository provides the following functionality:

- Showing multiple image figures
- Downloading and execute a file
- Taking image from webcam
- Taking a video from webcam
- Showing an image

Main functionality

```
import colaboratory_utils as colab_utils

# 1. Show multiple image figures:
# Create the dimensions of the figure and set title:
plt.figure(figsize=(12, 7))
plt.suptitle("Testing visualization", fontsize=14, fontweight='bold')

colab_utils.show_img_plt(img_bgr_flip_ud, title='sample', n_rows=2, n_cols=3, pos=1)
# .....

# Show the created image:
plt.show()

# 2. Download an execute a file
colab_utils.download_and_execute_file(fname, url, params= "", execute=True,
show_content=True)

# 3. Take image from webcam:
img = colab_utils.webcam2numpy()

# 4. Take video from webcam:
vid = colab_utils.videoGrabber(showVideo=False)
image_np = np.array(vid(0))

# 5. Show image (simple):
colab_utils.imshow(img)
```

Installing and using colaboratory-utils

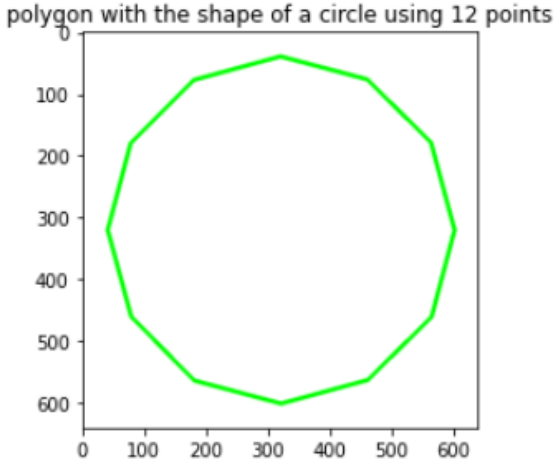
```
!pip install git+git://github.com/albertofernandezvillan/colaboratory-utils.git
```

```
import colaboratory_utils as colab_utils

fname = 'circle_polygon.py'
url = 'https://raw.githubusercontent.com/PacktPublishing/Mastering-OpenCV-4-with-Python/master/Chapter04/02-exercices/circle_polygon.py'

colab_utils.download_and_execute_file(fname, url, params= "", execute= True, show_content=True)
```

Executing an external Python script



Installing and using colaboratory-utils

Taking image from webcam

```
img = colab_utils.webcam2numpy()
print("Shape of the acquired image: '{}'".format(img.shape))
```

```
Shape of the acquired image: '(600, 800, 3)'
```

Showing an image

```
colab_utils.imshow(img)
```

Taking video from webcam

```
total_iter = 10

vid = colab_utils.videoGrabber(showVideo=False)

try:
  n_iter = 0
  while n_iter <= total_iter:
    n_iter += 1
    image_np = np.array(vid(0))
    colab_utils.imshow(image_np)
finally:
  vid(stop=True)
```

Google Colab

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