```
from google.colab import drive
drive.mount("/content/drive")
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.m
```

```
#!unzip '/content/drive/MyDrive/tcc/person2' -d '/content/drive/MyDrive/tcc'
```

```
%cd '/content/drive/MyDrive/tcc/'
!ls
```

```
/content/drive/MyDrive/tcc
backup
chart.png
chart_yolov4_custom.png
classes.txt
creating-files-data-and-name.py
creating-train-and-test-txt-files.py
custom_weight
darknet
Detectar_olho.ipynb
FotosPauloAlmeida
haarcascade
haarcascade_mcs_upperbody.xml
Mapeamento_rosto_68pontos.ipynb
person2
person2.zip
photo.jpg
shape_predictor_68_face_landmarks.dat
shape_predictor_68_face_landmarks.dat.bz2
shape_predictor_68_face_landmarks.dat.bz2.1
shape_predictor_68_face_landmarks.dat.bz2.2
shape_predictor_68_face_landmarks.dat.bz2.3
shape_predictor_68_face_landmarks.dat.bz2.4
shape_predictor_68_face_landmarks.dat.bz2.5
TCC_treino_deteccao_rosto.ipynb
TestaImagensYolo.ipynb
yolo.py
yolov4_custom.cfg
```

```
!cp 'classes.txt' '/content/drive/MyDrive/tcc/person2/classes.txt'
```

```
%cd '/content/drive/MyDrive/tcc/person2'
```

```
/content/drive/MyDrive/tcc/person2
```

```
!git clone 'https://github.com/AlexeyAB/darknet.git' '/content/drive/MyDrive/tcc/dark
```

```
Cloning into '/content/drive/MyDrive/tcc/darknet'...
remote: Enumerating objects: 15232, done.
remote: Counting objects: 100% (47/47), done.
remote: Compressing objects: 100% (26/26), done.
remote: Total 15232 (delta 21), reused 33 (delta 20), pack-reused 15185
Receiving objects: 100% (15232/15232), 13.66 MiB | 6.79 MiB/s, done.
```

```
Resolving deltas: 100% (10331/10331), done.
Checking out files: 100% (2044/2044), done.
```

```
%cd '/content/drive/MyDrive/tcc/darknet'
!ls
```

```
/content/drive/MyDrive/tcc/darknet
3rdparty        DarknetConfig.cmake.in  json_mjpeg_streams.sh  scripts
backup          darknet_images.py       LICENSE                src
build           darknet.py              Makefile               vcpkg.json
build.ps1       darknet_video.py        net_cam_v3.sh          video_yolov3.sh
cfg             data                    net_cam_v4.sh          video_yolov4.sh
cmake           image_yolov3.sh         obj
CMakeLists.txt  image_yolov4.sh         README.md
darknet         include                 results
```

```
!make
```

```
chmod +x *.sh
```

```
!pwd
```

```
/content/drive/MyDrive/tcc/darknet
```

```
%cd ..
```

```
/content/drive/My Drive/tcc
```

```
!chmod +x ./darknet
```

```
!chmod +x ./darknet/darknet
```

```
!darknet/darknet
```

```
usage: darknet/darknet <function>
```

```
!pwd
```

```
/content/drive/My Drive/tcc
```

```
%cd '/content/drive/MyDrive/tcc'
!ls
```

```
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shape_predictor_68_face_landmarks.dat.bz2.5
TCC_treino_deteccao_rosto.ipynb
TestaImagensYolo.ipynb
yolo.py
yolov4_custom.cfg
```

```
1 !python creating-files-data-and-name.py
```

```
1 !python creating-train-and-test-txt-files.py
```

```
O CAMINHO FOI  ./person2/PartB_00926.jpg

O CAMINHO FOI  ./person2/PartB_01759.jpg

O CAMINHO FOI  ./person2/PartB_00730.jpg

O CAMINHO FOI  ./person2/PartB_00067.jpg

O CAMINHO FOI  ./person2/PartB_00660.jpg

O CAMINHO FOI  ./person2/PartB_00142.jpg

O CAMINHO FOI  ./person2/PartB_01743.jpg

O CAMINHO FOI  ./person2/PartB_01149.jpg

O CAMINHO FOI  ./person2/PartB_02258.jpg

O CAMINHO FOI  ./person2/PartB_01350.jpg

O CAMINHO FOI  ./person2/PartB_00165.jpg

O CAMINHO FOI  ./person2/PartB_00326.jpg

O CAMINHO FOI  ./person2/PartB_01987.jpg

O CAMINHO FOI  ./person2/PartB_01729.jpg

O CAMINHO FOI  ./person2/PartB_01261.jpg

O CAMINHO FOI  ./person2/PartB_01152.jpg

O CAMINHO FOI  ./person2/PartB_00409.jpg
```

```
O CAMINHO FOI  ./person2/PartB_01731.jpg

O CAMINHO FOI  ./person2/PartB_00509.jpg

O CAMINHO FOI  ./person2/PartB_00962.jpg

O CAMINHO FOI  ./person2/PartB_00384.jpg

O CAMINHO FOI  ./person2/PartB_01396.jpg

O CAMINHO FOI  ./person2/PartB_00685.jpg

O CAMINHO FOI  ./person2/PartB_00203.jpg

O CAMINHO FOI  ./person2/PartB_00955.jpg

O CAMINHO FOI  ./person2/PartB_00242.jpg

O CAMINHO FOI  ./person2/PartB_00809.jpg

O CAMINHO FOI  ./person2/PartB_02047.jpg

O CAMINHO FOI  ./person2/PartB_01451.jpg

O CAMINHO FOI  ./person2/PartB_02156.jpg
```

```
1  !ls
```

```
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TCC_treino_deteccao_rosto.ipynb
TestaImagensYolo.ipynb
yolo.py
yolov4_custom.cfg
```

```
1  !pwd
```

```
/content/drive/My Drive/tcc
```

```
!cp 'yolov4_custom.cfg' './darknet/cfg/yolov4_custom.cfg'
```

```
%cd '/content/drive/My Drive/tcc/'
```

```
/content/drive/MyDrive/tcc
```

```
!darknet/darknet detector train person2/labelled_data.data darknet/cfg/yolov4_custom.
```

```
 CUDA-version: 11000 (11020), cuDNN: 7.6.5, GPU count: 1
 OpenCV version: 3.2.0
yolov4_custom
 0 : compute_capability = 370, cudnn_half = 0, GPU: Tesla K80
net.optimized_memory = 0
mini_batch = 4, batch = 64, time_steps = 1, train = 1
   layer   filters  size/strd(dil)      input                output
   0 Create CUDA-stream - 0
 Create cudnn-handle 0
conv     32       3 x 3/ 1    416 x 416 x   3 ->  416 x 416 x  32 0.299 BF
   1 conv     64       3 x 3/ 2    416 x 416 x  32 ->  208 x 208 x  64 1.595 BF
   2 conv     64       1 x 1/ 1    208 x 208 x  64 ->  208 x 208 x  64 0.354 BF
   3 route  1                                     ->  208 x 208 x  64
   4 conv     64       1 x 1/ 1    208 x 208 x  64 ->  208 x 208 x  64 0.354 BF
   5 conv     32       1 x 1/ 1    208 x 208 x  64 ->  208 x 208 x  32 0.177 BF
   6 conv     64       3 x 3/ 1    208 x 208 x  32 ->  208 x 208 x  64 1.595 BF
   7 Shortcut Layer: 4,  wt = 0, wn = 0, outputs: 208 x 208 x  64 0.003 BF
   8 conv     64       1 x 1/ 1    208 x 208 x  64 ->  208 x 208 x  64 0.354 BF
   9 route  8 2                                   ->  208 x 208 x 128
  10 conv     64       1 x 1/ 1    208 x 208 x 128 ->  208 x 208 x  64 0.709 BF
  11 conv    128       3 x 3/ 2    208 x 208 x  64 ->  104 x 104 x 128 1.595 BF
  12 conv     64       1 x 1/ 1    104 x 104 x 128 ->  104 x 104 x  64 0.177 BF
  13 route  11                                    ->  104 x 104 x 128
  14 conv     64       1 x 1/ 1    104 x 104 x 128 ->  104 x 104 x  64 0.177 BF
  15 conv     64       1 x 1/ 1    104 x 104 x  64 ->  104 x 104 x  64 0.089 BF
  16 conv     64       3 x 3/ 1    104 x 104 x  64 ->  104 x 104 x  64 0.797 BF
  17 Shortcut Layer: 14,  wt = 0, wn = 0, outputs: 104 x 104 x  64 0.001 BF
  18 conv     64       1 x 1/ 1    104 x 104 x  64 ->  104 x 104 x  64 0.089 BF
  19 conv     64       3 x 3/ 1    104 x 104 x  64 ->  104 x 104 x  64 0.797 BF
  20 Shortcut Layer: 17,  wt = 0, wn = 0, outputs: 104 x 104 x  64 0.001 BF
  21 conv     64       1 x 1/ 1    104 x 104 x  64 ->  104 x 104 x  64 0.089 BF
  22 route  21 12                                 ->  104 x 104 x 128
  23 conv    128       1 x 1/ 1    104 x 104 x 128 ->  104 x 104 x 128 0.354 BF
  24 conv    256       3 x 3/ 2    104 x 104 x 128 ->   52 x  52 x 256 1.595 BF
  25 conv    128       1 x 1/ 1     52 x  52 x 256 ->   52 x  52 x 128 0.177 BF
  26 route  24                                    ->   52 x  52 x 256
  27 conv    128       1 x 1/ 1     52 x  52 x 256 ->   52 x  52 x 128 0.177 BF
  28 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
  29 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
  30 Shortcut Layer: 27,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
  31 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
  32 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
  33 Shortcut Layer: 30,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
  34 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
  35 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
  36 Shortcut Layer: 33,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
  37 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
  38 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
  39 Shortcut Layer: 36,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
```

```
 40 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
 41 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
 42 Shortcut Layer: 39,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
 43 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
 44 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
 45 Shortcut Layer: 42,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
 46 conv    128       1 x 1/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.089 BF
 47 conv    128       3 x 3/ 1     52 x  52 x 128 ->   52 x  52 x 128 0.797 BF
 48 Shortcut Layer: 45,  wt = 0, wn = 0, outputs:  52 x  52 x 128 0.000 BF
```