

Download with: `git clone https://github.com/pythonlessons/OIDv4_ToolKit.git`

Go into folder: `cd OIDv4_ToolKit`

Install with:

`pip3 install -r requirements.txt`

`pip3 install lxml`

```
Kneron@ubuntu: ~/OIDv4_ToolKit
File Edit View Search Terminal Help
Kneron@ubuntu:~$ lsusb
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 004: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 003: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 005: ID 3231:0100
Bus 003 Device 002: ID 0e0f:0003 VMware, Inc. Virtual Mouse
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Kneron@ubuntu:~$ git clone https://github.com/pythonlessons/OIDv4_ToolKit.git
Cloning into 'OIDv4_ToolKit'...
remote: Enumerating objects: 439, done.
remote: Total 439 (delta 0), reused 0 (delta 0), pack-reused 439
Receiving objects: 100% (439/439), 34.09 MiB | 21.27 MiB/s, done.
Resolving deltas: 100% (155/155), done.
Kneron@ubuntu:~$ cd OIDv4_ToolKit
Kneron@ubuntu:~/OIDv4_ToolKit$ Pip3 install -r requirements.txt

Command 'Pip3' not found, did you mean:

  command 'pip3' from deb python3-pip

Try: sudo apt install <deb name>

Kneron@ubuntu:~/OIDv4_ToolKit$ pip3 install -r requirements.txt
Collecting pandas (from -r requirements.txt (line 1))
  Downloading https://files.pythonhosted.org/packages/4d/51/bafcff417cd857bc6684336320863b5e5af280530213ef8f534b6042cfe6/pandas-1.1.4-cp36-cp36m-manylinux1_x86_64.whl (9.5MB)
    100% |#####| 9.5MB 79kB/s
Collecting numpy (from -r requirements.txt (line 2))
  Using cached https://files.pythonhosted.org/packages/a6/fc/36e52d0ae2aa502b211f1bcd2fdeec72d343d58224eabcccddc1bcb52db1/numpy-1.19.4-cp36-cp36m-manylinux1_x86_64.whl
Collecting awscli (from -r requirements.txt (line 3))
  Downloading https://files.pythonhosted.org/packages/13/c9/3a7af3ff370ff3f4122901257e3314db6ddd25ca6d0b9d835366a123deed/awscli-1.18.185-py2.py3-none-any.whl (3.4MB)
    100% |#####| 3.5MB 319kB/s
Collecting urllib3 (from -r requirements.txt (line 5))
  Downloading https://files.pythonhosted.org/packages/f5/71/45d36a8df68f3ebb098d6861b2c017f3d094538c0fb98fa61d4dc43669b9/urllib3-1.26.2-py2.py3-none-any.whl (136kB)
    100% |#####| 143kB 5.1MB/s
Collecting tqdm (from -r requirements.txt (line 7))
  Downloading https://files.pythonhosted.org/packages/e9/4e/afa45872365fe2abd13c8022d39348c01808b8cfeea129937920d7b2244/tqdm-4.54.0-py2.py3-none-any.whl (69kB)
    100% |#####| 71kB 3.2MB/s
Collecting opencv-python (from -r requirements.txt (line 9))
  Downloading https://files.pythonhosted.org/packages/30/46/821920986c7ce5bae5518c1d490e520a9ab4cef51e3e54e35094dad0d68/opencv-python-4.4.0.46.tar.gz (88.9MB)
    29% |#####| 25.9MB 16.0MB/s eta 0:00:04
```

```
Kneron@ubuntu: ~/OIDv4_ToolKit
File Edit View Search Terminal Help
Kneron@ubuntu:~/OIDv4_ToolKit$ pip3 install lxml
Collecting lxml
  Downloading https://files.pythonhosted.org/packages/bd/78/56a7c88a57d0d14945472535d0d9fb4bbad7d34ede658ec7961635c790e/lxml-4.6.2-cp36-cp36m-manylinux1_x86_64.whl (5.5MB)
    100% |#####| 5.5MB 223kB/s
Installing collected packages: lxml
Successfully installed lxml-4.6.2
```

Download with: `python3 main.py downloader --classes Binoculars --type_csv train --limit 400`

```
Sun 22:49 •
Kneron@ubuntu: ~/OIDv4_ToolKit
File Edit View Search Terminal Help
Kneron@ubuntu:~/OIDv4_ToolKit$ python3 main.py downloader --classes Binoculars --type_csv train --limit
400

  O I D v 4
  D o w n l o a d e r

[INFO] | Downloading Binoculars.
[ERROR] | Missing the class-descriptions-boxable.csv file.
[DOWNLOAD] | Do you want to download the missing file? [Y/n] y
..145%, 0 MB, 13788 KB/s, 0 seconds passed
[DOWNLOAD] | File class-descriptions-boxable.csv downloaded into OID/csv_folder/class-descriptions-boxa
le.csv.
[ERROR] | Missing the train-annotations-bbox.csv file.
[DOWNLOAD] | Do you want to download the missing file? [Y/n] y
..100%, 1138 MB, 26738 KB/s, 43 seconds passed
[DOWNLOAD] | File train-annotations-bbox.csv downloaded into OID/csv_folder/train-annotations-bbox.csv.
```

Then open `voc_to_YOLOv3.py` and changed the marked part

```
Sun 22:55 •
Text Editor
Open
vocat_YOLOv3.py
~/OIDv4_ToolKit
Save

dataset_train = 'OID\\Dataset\\train\\'
dataset_file = '4_CLASS_test.txt'
classes_file = dataset_file[:-4]+'_classes.txt'

CLS = os.listdir(dataset_train)
d LibreOffice Writer _train+CLASS for CLASS in CLS]
wd = getcwd()

def test(fullname):
    bb = ""
    in_file = open(fullname)
    tree=ET.parse(in_file)
    root = tree.getroot()
    for i, obj in enumerate(root.iter('object')):
        difficult = obj.find('difficult').text
        cls = obj.find('name').text
        if cls not in CLS or int(difficult)==1:
            continue
```

```
Sun 22:56 •
Text Editor
Open
*vocat_YOLOv3.py
~/OIDv4_ToolKit
Save

dataset_train = 'OID/Dataset/train/'
dataset_file = '4_CLASS_test.txt'
classes_file = dataset_file[:-4]+'_classes.txt'

CLS = os.listdir(dataset_train)
classes =[dataset_train+CLASS for CLASS in CLS]
wd = getcwd()

def test(fullname):
    bb = ""
    in_file = open(fullname)
    tree=ET.parse(in_file)
```

```
Editor ▾ Sun 22:56 ●
*voc_to_YOLOv3.py
~/OIDv4_ToolKit

ain = 'OID/Dataset/train/'
le = '4_CLASS_test.txt'
le = dataset_file[:-4]+'_classes.txt'

os.listdir(dataset_train)
dataset_train+CLASS for CLASS in CLS]
id())

fullname):
"""
e = open(fullname)
Client se(in_file)
= tree.getroot()
, obj in enumerate(root.iter('object')):
fficult = obj.find('difficult').text
s = obj.find('name').text
* cls not in CLS or int(difficult)==1:
    continue
s_id = CLS.index(cls)
ilbox = obj.find('bndbox')
= (int(xmlbox.find('xmin').text), int(xmlbox.find('ymin').text), int(xmlbox.find('xmax').
.find('ymax').text))
) += (" " + ",".join([str(a) for a in b]) + ',' + str(cls_id))

we need this because I don't know overlapping or something like that
* cls == 'Traffic_light':
    list_file = open(dataset_file, 'a')
    file_string = str(fullname)[:4]+'_jpg'+bb+'\n'
    list_file.write(file_string)
    list_file.close()
    bb = ""

!= "":
st_file = open(dataset_file, 'a')
le_string = str(fullname)[:4]+'_jpg'+bb+'\n'
st_file.write(file_string)
st_file.close()

in classes:
lename in os.listdir(CLASS):
* not filename.endswith('.xml'):
    continue
llname = os.getcwd()+ '\\'+CLASS+'\\'+filename
st(fullname)
```

```

Text Editor
Sun 22:56
*voc_to_YOLOv3.py
~/OIDv4_ToolKit

dataset_train = 'OID/Dataset/train/'
dataset_file = '4_CLASS_test.txt'
classes_file = dataset_file[:-4]+'_classes.txt'

CLS = os.listdir(dataset_train)
classes=[dataset_train+CLASS for CLASS in CLS]
wd = getcwd()

def test(fullname):
    bb = ""
    in_file = open(fullname)
    tree=ET.parse(in_file)
    root = tree.getroot()
    for i, obj in enumerate(root.iter('object')):
        difficult = obj.find('difficult').text
        cls = obj.find('name').text
        if cls not in CLS or int(difficult)==1:
            continue
        cls_id = CLS.index(cls)
        xmlbox = obj.find('bndbox')
        b = (int(xmlbox.find('xmin').text), int(xmlbox.find('ymin').text), int(xmlbox.find('xmax').text),
int(xmlbox.find('ymax').text))
        bb += (" " + ",".join([str(a) for a in b]) + ',' + str(cls_id))

        # we need this because I don't know overlapping or something like that
        if cls == 'Traffic_light':
            list_file = open(dataset_file, 'a')
            file_string = str(fullname)[:-4]+'.jpg'+bb+'\n'
            list_file.write(file_string)
            list_file.close()
            bb = ""

    if bb != "":
        list_file = open(dataset_file, 'a')
        file_string = str(fullname)[:-4]+'.jpg'+bb+'\n'
        list_file.write(file_string)
        list_file.close()

for CLASS in classes:
    for filename in os.listdir(CLASS):
        if not filename.endswith('.xml'):
            continue
        fullname = os.getcwd()+ '/' + CLASS + '/' + filename
        test(fullname)

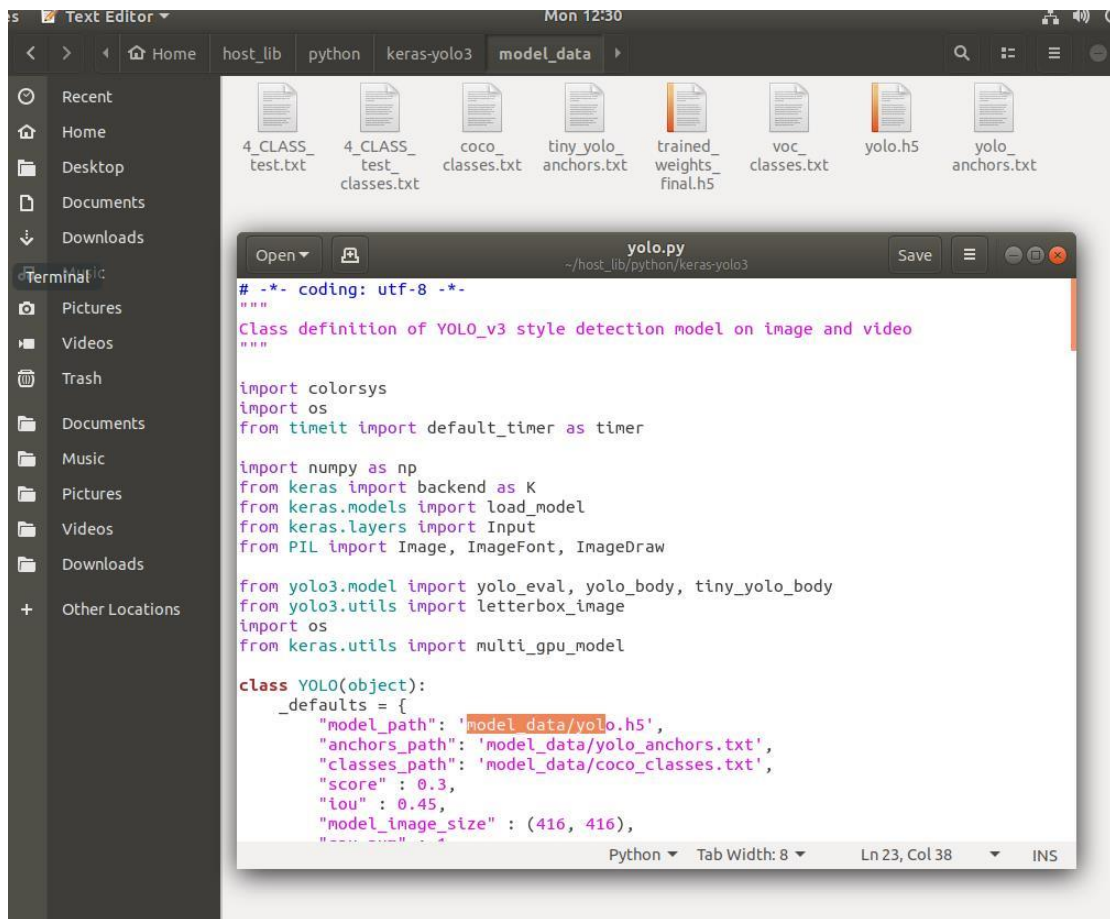
```

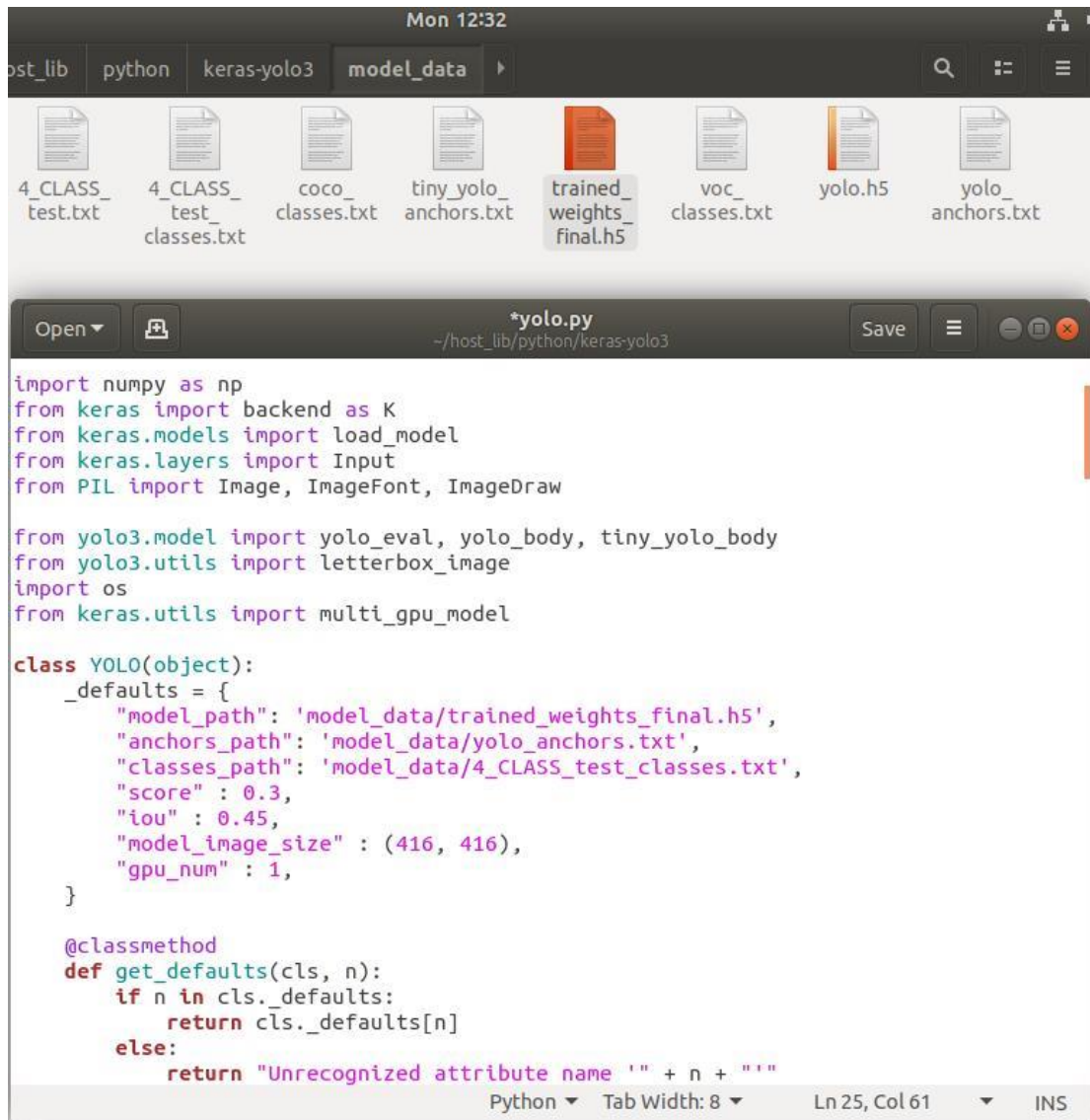
Copy 4_CLASS_test.txt and 4_CLASS_test_classes.txt in to Keras-yolo3/model_data

Download the training:

[//drive.google.com/file/d/1xtQ6fvywdbbFs71gfW1252h6eorkwcpt/view](https://drive.google.com/file/d/1xtQ6fvywdbbFs71gfW1252h6eorkwcpt/view)

Open yolo.py and change the marked part





Download the binoculars picture in `Keras-yolo3/model_data`

Then testing with : `python3 yolo_video.py -image`

Enter the picture's filename as below

```
Mon 12:59
st_lib python keras-yolo3
Kneron@ubuntu: ~/host_lib/python/keras-yolo3
File Edit View Search Terminal Help
Kneron@ubuntu:~/host_lib/python/keras-yolo3$ python3 yolo_video.py --image
Using TensorFlow backend.
/home/Kneron/.local/lib/python3.6/site-packages/tensorflow/python/framework/dtypes
.py:516: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type is depre
cated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)
type'.
_np_qint8 = np.dtype(["qint8", np.int8, 1])
/home/Kneron/.local/lib/python3.6/site-packages/tensorflow/python/framework/dtypes
.py:517: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type is depre
cated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)
type'.
_np_quint8 = np.dtype(["quint8", np.uint8, 1])
/home/Kneron/.local/lib/python3.6/site-packages/tensorflow/python/framework/dtypes
.py:518: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type is depre
cated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)
type'.
_np_qint16 = np.dtype(["qint16", np.int16, 1])
/home/Kneron/.local/lib/python3.6/site-packages/tensorflow/python/framework/dtypes
.py:519: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type is depre
cated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)
type'.
_np_quint16 = np.dtype(["quint16", np.uint16, 1])
/home/Kneron/.local/lib/python3.6/site-packages/tensorflow/python/framework/dtypes
.py:520: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type is depre
cated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)
type'.
_np_qint32 = np.dtype(["qint32", np.int32, 1])
/home/Kneron/.local/lib/python3.6/site-packages/tensorflow/python/framework/dtypes
.py:525: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type is depre
cated; in a future version of numpy, it will be understood as (type, (1,)) / '(1,)
type'.
_np_resource = np.dtype(["resource", np.ubyte, 1])
/usr/lib/python3/dist-packages/requests/__init__.py:80: RequestsDependencyWarning:
urllib3 (1.26.2) or chardet (3.0.4) doesn't match a supported version!
RequestsDependencyWarning)
/home/Kneron/.local/lib/python3.6/site-packages/tensorboard/compat/tensorflow_stub
/dtypes.py:541: FutureWarning: Passing (type, 1) or 'itype' as a synonym of type i
s deprecated; in a future version of numpy, it will be understood as (type, (1,))
```



```
Mon 12:59
ost_lib python keras-yolo3
Kneron@ubuntu: ~/host_lib/python/keras-yolo3
File Edit View Search Terminal Help
end/tensorflow_backend.py:74: The name tf.get_default_graph is deprecated. Please
use tf.compat.v1.get_default_graph instead.

2020-11-30 12:39:27.613308: W tensorflow/compiler/jit/mark_for_compilation_pass.cc
:1412] (One-time warning): Not using XLA:CPU for cluster because envvar TF_XLA_FL
AGS=-tf_xla_cpu_global_jit was not set. If you want XLA:CPU, either set that envv
ar, or use experimental_jit_scope to enable XLA:CPU. To confirm that XLA is activ
e, pass --vmodule=xla_compilation_cache=1 (as a proper command-line flag, not via
TF_XLA_FLAGS) or set the envvar XLA_FLAGS=-xla_hlo_profile.
WARNING:tensorflow:From /home/Kneron/.local/lib/python3.6/site-packages/keras/back
end/tensorflow_backend.py:1834: The name tf.nn.fused_batch_norm is deprecated. Ple
ase use tf.compat.v1.nn.fused_batch_norm instead.

WARNING:tensorflow:From /home/Kneron/.local/lib/python3.6/site-packages/keras/back
end/tensorflow_backend.py:2018: The name tf.image.resize_nearest_neighbor is depre
cated. Please use tf.compat.v1.image.resize_nearest_neighbor instead.

model_data/trained_weights_final.h5 model, anchors, and classes loaded.
WARNING:tensorflow:From /home/Kneron/.local/lib/python3.6/site-packages/tensorflow
/python/ops/array_ops.py:1354: add_dispatch_support.<locals>.wrapper (from tensorf
low.python.ops.array_ops) is deprecated and will be removed in a future version.
Instructions for updating:
Use tf.where in 2.0, which has the same broadcast rule as np.where
Input image filename:images.jfif
(416, 416, 3)
2020-11-30 12:42:31.978622: E tensorflow/core/grappler/optimizers/meta_optimizer.c
c:502] remapper failed: Invalid argument: Subshape must have computed start >= end
since stride is negative, but is 0 and 2 (computed from start 0 and end 922337203
6854775807 over shape with rank 2 and stride-1)
2020-11-30 12:42:32.301718: E tensorflow/core/grappler/optimizers/meta_optimizer.c
c:502] remapper failed: Invalid argument: Subshape must have computed start >= end
since stride is negative, but is 0 and 2 (computed from start 0 and end 922337203
6854775807 over shape with rank 2 and stride-1)
Found 1 boxes for img
Binoculars 0.95 (65, 62) (156, 121)
3.227955184000166
Input image filename:a.jpg
(416, 416, 3)
Found 1 boxes for img
Binoculars 0.96 (170, 95) (387, 243)
0.9832908999997017
Input image filename:
```


Display-lm6.q16 Mon 12:43

Recent Home Desktop Downloads Music Pictures Videos Trash Documents Music Pictures Videos Downloads Other Locations

ImageMagick: tmpj0yzbbmy.PNG

ImageMagick: tmpyuzk97st.PNG

```
File Edit View Search Terminal H
ow/python/ops/array_ops.py:15
sorflow.python.ops.array_ops)
ion.
Instructions for updating:
Use tf.where in 2.0, which ha
Input image filename:images.j
(416, 416, 3)
2020-11-30 12:42:31.978622: E
.cc:502] remapper failed: Inv
end since stride is negative
3372036854775807 over shape w
2020-11-30 12:42:32.301718: E tensorflow/core/grappler/optimizers/meta_optimizer
.cc:502] remapper failed: Invalid argument: Subshape must have computed start >=
end since stride is negative, but is 0 and 2 (computed from start 0 and end 922
3372036854775807 over shape with rank 2 and stride-1)
Found 1 boxes for img
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Input image filename:a.jpg
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Binoculars 0.96 (170, 95) (387, 243)
0.983290899997017
Input image filename:
```