

Object Detection:

Project „Face Mask Detection with Yolo v7“

# Object Detection: YOLO Project

## Data Overview

- Face Mask Detection
- Data Source: <https://www.kaggle.com/datasets/andrewmvd/face-mask-detection>
- Classes:
  - with\_mask
  - without\_mask
  - mask\_wearred\_incorrect
- 853 images
- Labels in Pascal Voc format



LARXEL · UPDATED 3  
YEARS AGO



1500

New Notebook

Download (417 MB)



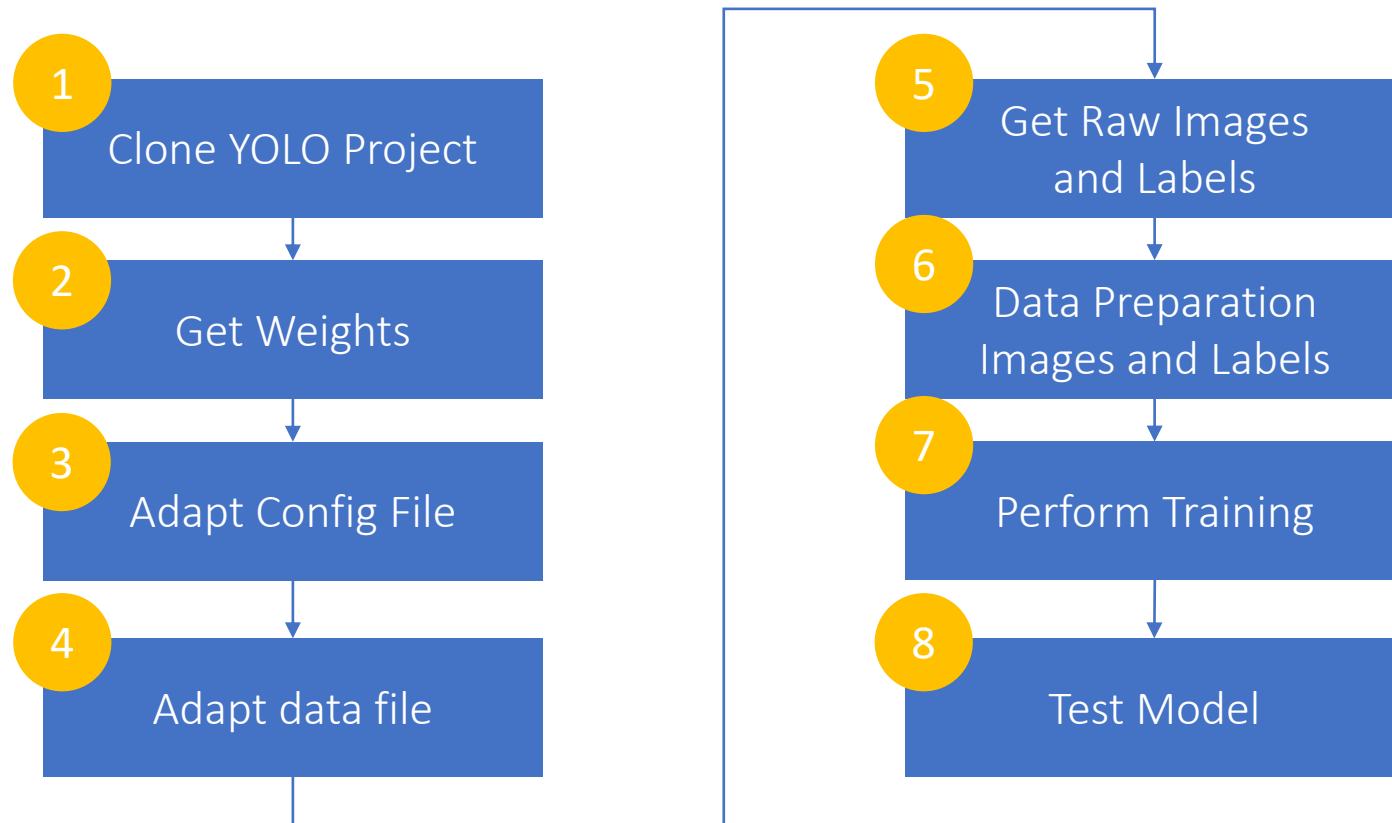
## Face Mask Detection

853 images belonging to 3 classes.



# Object Detection: YOLO Project

## Steps



# Object Detection: YOLO Project

## Steps

1

Clone YOLO Project

git clone <https://github.com/WongKinYiu/yolov7.git>

2

Get Weights

- download from <https://github.com/WongKinYiu/yolov7/releases/download/v0.1/yolov7-e6e.pt>
- store in yolo7 folder

3

Adapt Config File

- create copy of yolov7\cfg\training\yolov7-e6e.yaml
- set number of classes

```
1  # parameters  
2  nc: 7  # number of classes
```

# Object Detection: YOLO Project

Steps

4

Adapt data file

```
yolov7 > data >  masks.yaml
```

```
1  train: ./train
```

```
2  val:  ./val
```

```
3  test: ./test
```

```
4
```

```
5  # Classes
```

```
6  nc: 3  # number of classes
```

```
7  names: ['with_mask', 'without_mask', 'mask_wearred_incorrect']
```

# Object Detection: YOLO Project

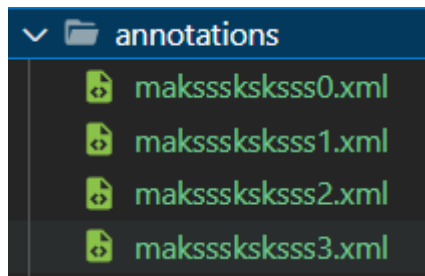
Steps

5

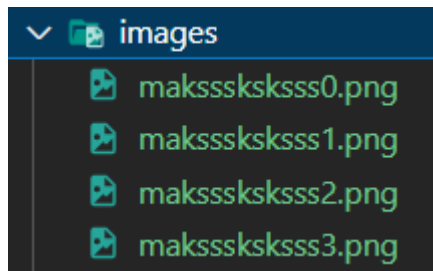
Get Raw Images  
and Labels

download from Kaggle

source: <https://www.kaggle.com/datasets/andrewmvd/face-mask-detection>



...



...

# Object Detection: YOLO Project

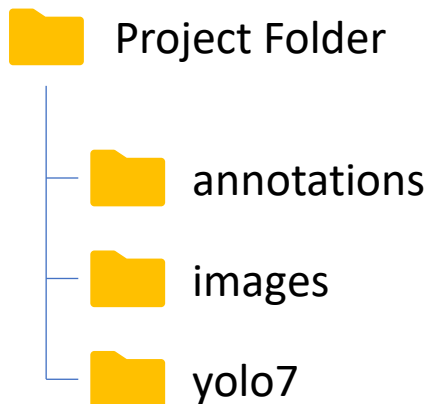
Steps

6

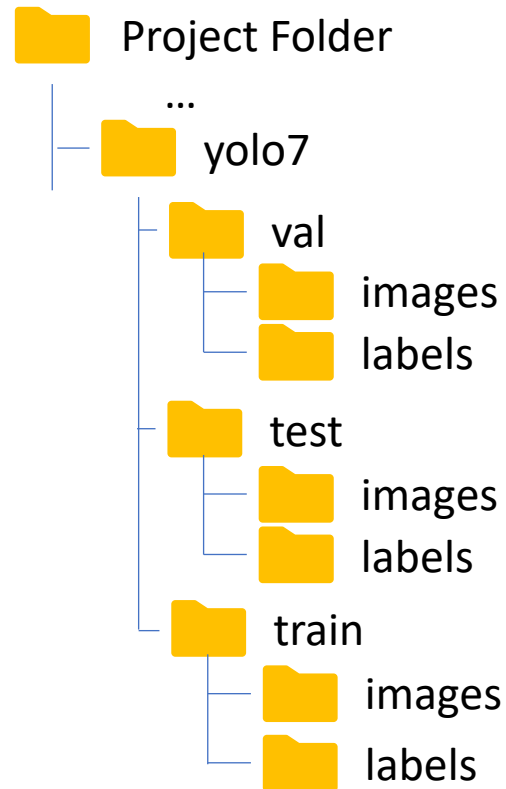
Data Preparation  
Images and Labels

- Convert Pascal Voc labels to Yolo format
- split data into subfolders

*before*



*after*



# Object Detection: YOLO Project

Steps

7

Perform Training

```
python train.py
  --weights yolov7-e6e.pt
  --data "data/masks.yaml"
  --workers 1
  --batch-size 4
  --img 640
  --cfg cfg/training/yolov7-masks.yaml
  --name yolov7
  --epochs 50
```



# Object Detection: YOLO Project

Steps

8

Test Model

```
python detect.py
--weights runs/train/yolov73/weights/best.pt
--conf 0.4
--img-size 640
--source ./test/images/file_to_test.png
```

