

Yolov5

1. Yolov5 github 地址:

<https://github.com/ultralytics/yolov5>

源码讲解(优先看detect.py):

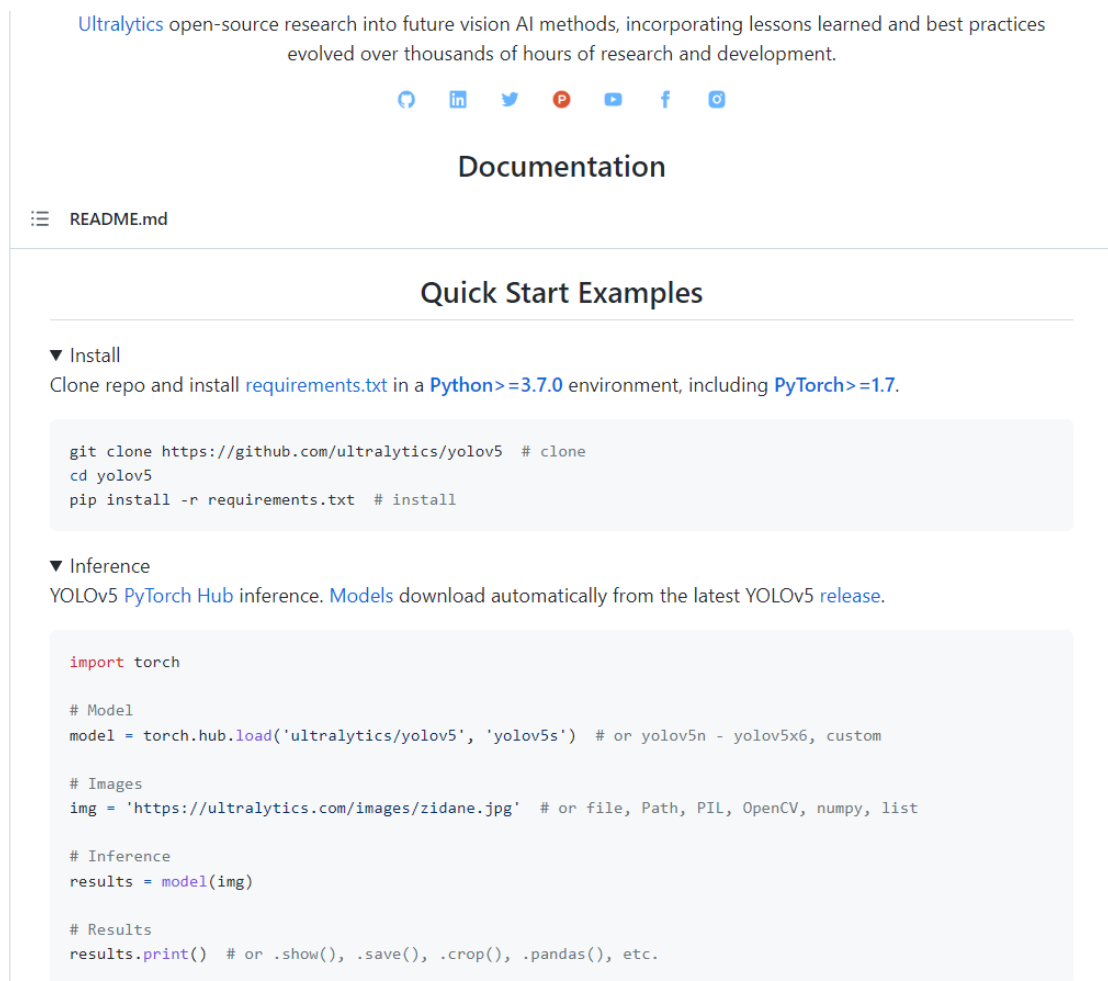
https://www.bilibili.com/video/BV1BB4y197kq?p=31&spm_id_from=333.880.my_history.page.click

2. github 使用 tips:

2.1 下载代码

https://blog.csdn.net/WILDCHAP_/article/details/107532836

2.2 查看 readme



The screenshot shows the top portion of the Yolov5 README.md file. At the top, it states: "Ultralytics open-source research into future vision AI methods, incorporating lessons learned and best practices evolved over thousands of hours of research and development." Below this is a row of social media icons. The section "Documentation" is visible, with a sub-section "Quick Start Examples". Under "Quick Start Examples", there are two main sections: "Install" and "Inference". The "Install" section instructs to clone the repo and install requirements.txt in a Python >= 3.7.0 environment, including PyTorch >= 1.7. It provides a code block with the following commands:

```
git clone https://github.com/ultralytics/yolov5 # clone
cd yolov5
pip install -r requirements.txt # install
```

 The "Inference" section instructs to use YOLOv5 PyTorch Hub inference, with models downloaded automatically from the latest YOLOv5 release. It provides a code block with the following Python code:

```
import torch

# Model
model = torch.hub.load('ultralytics/yolov5', 'yolov5s') # or yolov5n - yolov5x6, custom

# Images
img = 'https://ultralytics.com/images/zidane.jpg' # or file, Path, PIL, OpenCV, numpy, list

# Inference
results = model(img)

# Results
results.print() # or .show(), .save(), .crop(), .pandas(), etc.
```

代码往下滑就好，如果不明白就去搜索引擎搜一下，配合着看

2.3 控制下载 tag

git clone --branch=v3.0 <https://github.com/ultralytics/yolov5.git>

下载 yolov5 源码的时候选择 v3.0!

3. Yolov5 应用:

环境搭建:

```
pip install -r requirements.txt
```

运行测试

```
Python detect.py
```

如果是 Windows 系统建议装 Windows Terminal，蛮好用的。怎么装上网

查查。

```
PS E:\yolov5_3.0\yolov5> python.exe .\detect.py
Namespace(weights='yolov5s.pt', source='inference/images', output='inference/output', img_size=640,
conf_thres=0.4, iou_thres=0.5, device='0', view_img=False, save_txt=False, classes=None, agnostic_nms=False, augment=False, update=False)
Using CUDA device0 _CudaDeviceProperties(name='NVIDIA GeForce RTX 2060', total_memory=6143MB)

Fusing layers...
Model Summary: 140 layers, 7.45958e+06 parameters, 6.61683e+06 gradients
D:\Anaconda\lib\site-packages\torch\functional.py:568: UserWarning: torch.meshgrid: in an upcoming release, it will be required to pass the indexing argument. (Triggered internally at C:\cb\pytorch_1000000000000\work\aten\src\ATen\native\TensorShape.cpp:2228.)
  return _VF.meshgrid(tensors, **kwargs) # type: ignore[attr-defined]
image 1/2 E:\yolov5_3.0\yolov5\inference\images\bus.jpg: 640x512 4 persons, 1 buss, Done. (0.038s)
image 2/2 E:\yolov5_3.0\yolov5\inference\images\zidane.jpg: 384x640 2 persons, 2 ties, Done. (0.034s)
Results saved to inference\output
Done. (1.033s)
```

检测结果:



制作并训练自己的数据集

https://blog.csdn.net/weixin_48994268/article/details/115282688

ROS

Ros 课程：（Optional）

https://www.bilibili.com/video/BV1Ci4y1L7ZZ?spm_id_from=333.1007.top_right_bar_window_custom_collection.content.click

掌握程度：

1. 会编写功能包
2. 会发布、接收数据
3. 会使用自定义 msg
4. 会编写 launch 文件