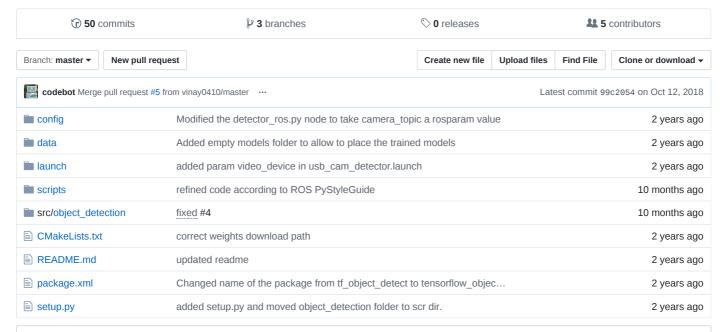
osrf / tensorflow_object_detector

Tensorflow Object Detector



■ README.md

Tensorflow Object Detector with ROS

Requirements:

Tensorflow and ROS

This guide targets Ubuntu 16.04 and ROS Kinetic

Steps:

To run Default SSD (Single Shot Detection) algorithm:

- 1. Install ROS: http://wiki.ros.org/kinetic/Installation/Ubuntu
- 2. Install camera dependencies

```
sudo apt-get install ros-kinetic-usb_cam ros-kinetic-openni2-launch
```

3. Install tensorflow into python virtualenv: https://www.tensorflow.org/install/install_linux

```
sudo apt-get install python-pip python-dev python-virtualenv
virtualenv --system-site-packages ~/tensorflow
source ~/tensorflow/bin/activate
```

pip install --upgrade tensorflow

easy_install -U pip

4. mkdir ~/catkin ws/ && mkdir ~/catkin ws/src/

5. Clone standard Vision messages repository and this repository into <code>catkin_ws/src</code>:

cd ~/catkin_ws/src

git clone https://github.com/Kukanani/vision_msgs.git

git clone https://github.com/osrf/tensorflow_object_detector.git

6. Build tensorflow_object_detector and Vision message

```
cd ~/catkin_ws && catkin_make
```

7. Source catkin workspace's setup.bash:

```
source ~/catkin_ws/devel/setup.bash
```

8. Plug in camera and launch Single Shot Detector (varies per camera, NOTE: <code>object_detect.launch</code> also launches the openni2.launch file for the camera. If you are using any other camera, please change the camera topic in the launch file before launching the file)

```
roslaunch tensorflow_object_detector object_detect.launch
```

OR

 $roslaunch\ tensorflow_object_detector\ usb_cam_detector.launch$

If you want to try any other ML model:

- Download any Object Detection Models from the Tensorflow Object detection API and place it in data/models/. You
 can find the models in tensorflow Object Detection Model Zoo:
 https://github.com/tensorflow/models/blob/master/object_detection/g3doc/detection_model_zoo.md. Extract the tar.gz file.
- 2. Edit the MODEL_NAME and LABEL_NAME in detect_ros.py. By default it is ssd_mobilenet_v1_coco_11_06_2017 with mscoco_label_map.pbtxt respectively.