🖳 osrf / **tensorflow_object_detector**

Tensorflow Object Detector

⏱ **50** commits	⑂ **3** branches	🏷 **0** releases	👥 **5** contributors

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👤 **codebot** Merge pull request #5 from vinay0410/master ⋯	Latest commit 99c2054 on Oct 12, 2018

📁 config	Modified the detector_ros.py node to take camera_topic a rosparam value	2 years ago
📁 data	Added empty models folder to allow to place the trained models	2 years ago
📁 launch	added param video_device in usb_cam_detector.launch	2 years ago
📁 scripts	refined code according to ROS PyStyleGuide	10 months ago
📁 src/object_detection	fixed #4	10 months ago
📄 CMakeLists.txt	correct weights download path	2 years ago
📄 README.md	updated readme	2 years ago
📄 package.xml	Changed name of the package from tf_object_detect to tensorflow_objec…	2 years ago
📄 setup.py	added setup.py and moved object_detection folder to scr dir.	2 years ago

📖 **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

   easy_install -U pip

   pip install --upgrade tensorflow
   ```

4. mkdir ~/catkin_ws/ && mkdir ~/catkin_ws/src/

5. Clone standard Vision messages repository and this repository into `catkin_ws/src`:

   ```
   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: `object_detect.launch` 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:

1. 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.