Preparing Inputs

TensorFlow Object Detection API reads data using the TFRecord file format. Two sample scripts (`create_pascal_tf_record.py` and `create_pet_tf_record.py`) are provided to convert from the PASCAL VOC dataset and Oxford-IIIT Pet dataset to TFRecords.

Generating the PASCAL VOC TFRecord files.

The raw 2012 PASCAL VOC data set is located here. To download, extract and convert it to TFRecords, run the following commands below:

```
# From tensorflow/models/research/
wget http://host.robots.ox.ac.uk/pascal/VOC/voc2012/VOCtrainval_11-May-2012.tar
tar -xvf VOCtrainval_11-May-2012.tar
python object_detection/dataset_tools/create_pascal_tf_record.py \
    --label_map_path=object_detection/data/pascal_label_map.pbtxt \
    --data_dir=VOCdevkit --year=VOC2012 --set=train \
    --output_path=pascal_train.record
python object_detection/dataset_tools/create_pascal_tf_record.py \
    --label_map_path=object_detection/data/pascal_label_map.pbtxt \
    --data_dir=VOCdevkit --year=VOC2012 --set=val \
    --output_path=pascal_val.record
```

You should end up with two TFRecord files named `pascal_train.record` and `pascal_val.record` in the `tensorflow/models/research/` directory.

The label map for the PASCAL VOC data set can be found at `object_detection/data/pascal_label_map.pbt`

Generating the Oxford-IIIT Pet TFRecord files.

The Oxford-IIIT Pet data set is located here. To download, extract and convert it to TFRecords, run the following commands below:

```
# From tensorflow/models/research/
wget http://www.robots.ox.ac.uk/~vgg/data/pets/data/images.tar.gz
wget http://www.robots.ox.ac.uk/~vgg/data/pets/data/annotations.tar.gz
tar -xvf annotations.tar.gz
tar -xvf images.tar.gz
python object_detection/dataset_tools/create_pet_tf_record.py \
    --label_map_path=object_detection/data/pet_label_map.pbtxt \
    --data_dir=`pwd` \
    --output_dir=`pwd`
```

You should end up with two 10-sharded TFRecord files named `pet_faces_train.record-?????-of-00010` and `pet_faces_val.record-?????-of-00010` in the `tensorflow/models/research/` directory.

The label map for the Pet dataset can be found at `object_detection/data/pet_label_map.pbtxt`.