Installation

Dependencies

DeepLab depends on the following libraries:

- Numpy
- Pillow 1.0
- tf Slim (which is included in the "tensorflow/models/research/" checkout)
- Jupyter notebook
- Matplotlib
- Tensorflow

For detailed steps to install Tensorflow, follow the Tensorflow installation instructions. A typical user can install Tensorflow using one of the following commands:

```
# For CPU
pip install tensorflow
# For GPU
pip install tensorflow-gpu
```

The remaining libraries can be installed on Ubuntu 14.04 using via apt-get:

```
sudo apt-get install python-pil python-numpy
pip install --user jupyter
pip install --user matplotlib
pip install --user PrettyTable
```

Add Libraries to PYTHONPATH

When running locally, the tensorflow/models/research/ directory should be appended to PYTHONPATH. This can be done by running the following from tensorflow/models/research/:

```
# From tensorflow/models/research/
export PYTHONPATH=$PYTHONPATH:`pwd`:`pwd`/slim

# [Optional] for panoptic evaluation, you might need panopticapi:
# https://github.com/cocodataset/panopticapi
# Please clone it to a local directory ${PANOPTICAPI_DIR}
touch ${PANOPTICAPI_DIR}/panopticapi/__init__.py
export PYTHONPATH=$PYTHONPATH:${PANOPTICAPI_DIR}/panopticapi
```

Note: This command needs to run from every new terminal you start. If you wish to avoid running this manually, you can add it as a new line to the end of your ~/.bashrc file.

Testing the Installation

You can test if you have successfully installed the Tensorflow DeepLab by running the following commands:

Quick test by running model_test.py:

```
# From tensorflow/models/research/
python deeplab/model_test.py
```

Quick running the whole code on the PASCAL VOC 2012 dataset:

```
# From tensorflow/models/research/deeplab
bash local_test.sh
```