Install Tensorflow on Ubuntu without Root

`Ubuntu` `Tensorflow` `Python` `Linux`

We can install Tensorflow directly via `sudo pip install --upgrade TF_PYTHON_URL`. However, if we are not provided the root permission, we have to install it from source, which is not so easy. Following are my method to achieve this:

- Clone source code

```
1.    git clone https://github.com/tensorflow/tensorflow
2.    cd tensorflow
3.    git checkout r1.0
```

- Install Bazel: some online methods are just asshole, which cost me a lot of time
  - To install it we have to go to the releases and download the .zip file, .sh file is not suitable for that we do not have the permission to use it
  - Use `unzip` commande to depackage it
  - `./compile.sh` to compile it, then we can find a binary file named bazel in 'bazel/output', that's the executive file we need
  - We need to update the environment variable for it, note that if there's already an old-version one in your laptop, you'd better **set new environment variable before it**, otherwise the old version will still be executed for that it has higher priority.

```
1.    export PATH="/home/yunqiuxu/bazel/output:YOUR OLD ENVIRONMENT
      VARIABLES"
2.    echo $PATH # check the PATH
3.    bazel # check whether the new version is executed
```

- Tensorflow configuration

```
1.    cd Tensorflow
2.    ./configure # Most of them can be set as default value except CUDA, we
      need to enable it
```

- Build the pip package

```
1.  bazel build --config=opt --config=cuda
    //tensorflow/tools/pip_package:build_pip_package
2.  bazel-bin/tensorflow/tools/pip_package/build_pip_package
    /tmp/tensorflow_pkg
```

- After this you will find the whl file has been built, thus we can make installation via pip

```
1.  sudo pip install package_name.whl
```

Ref

https://www.tensorflow.org/install/install_sources

http://www.jianshu.com/p/511353bb6e8a

https://bazel.build/versions/master/docs/install-compile-source.html