GETTING STARTED GUIDE FOR THEANO, TENSORFLOW, CAFFE WITH PYCHARM

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December 7, 2016

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1 Caffe

1. To use Caffe software in Pycharm, you need to set the environments for CUDA and Pyhon path.
2. Open up VNC server and use your password to enter the Linux station.
3. By this time you should be able to see the Ubuntu Desktop shown in Figure 1.

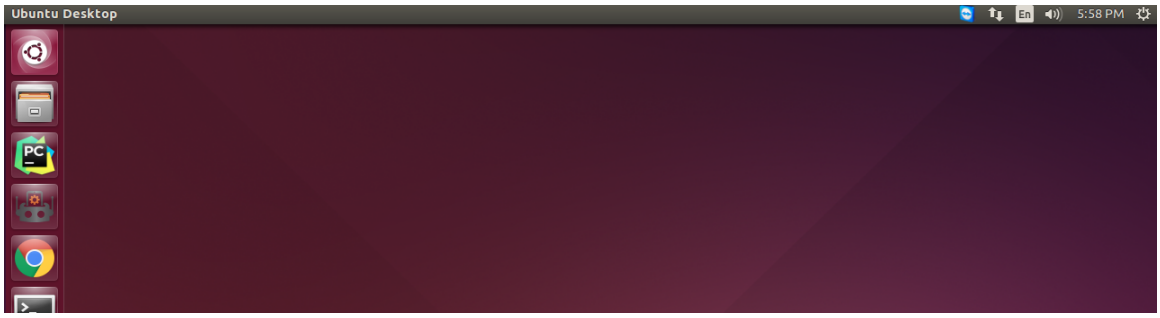

Figure 1: Ubuntu Desktop-Caffe

4. On the top left corner of the Ubuntu Desktop, the first icon is search box.
5. Click on it and search the word pycharm.
6. By this time you should be able to see the pycharm IDE and launch it by clicking on it.
7. By this time, you should be able to see Figure 2

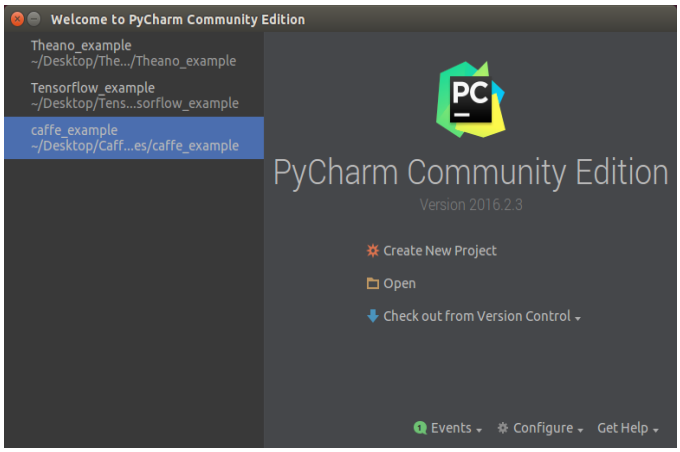

Figure 2: Pycharm IDE

8. Now, we need to create a project, click on create new project icon.
9. It opens up a new window shown in Figure 3.

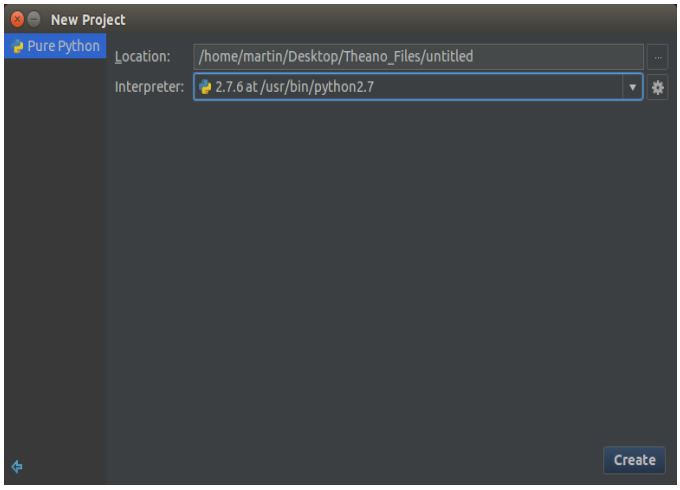

Figure 3: Create New Project

10. Now you need to set two things Location and Interpreter.
11. Basically, location is the path that you are saving your files (Your folder).
12. Interpreter needs to be set as python 2.7.
13. Now press create bottom and by this time, you should be able to see Figure 4.

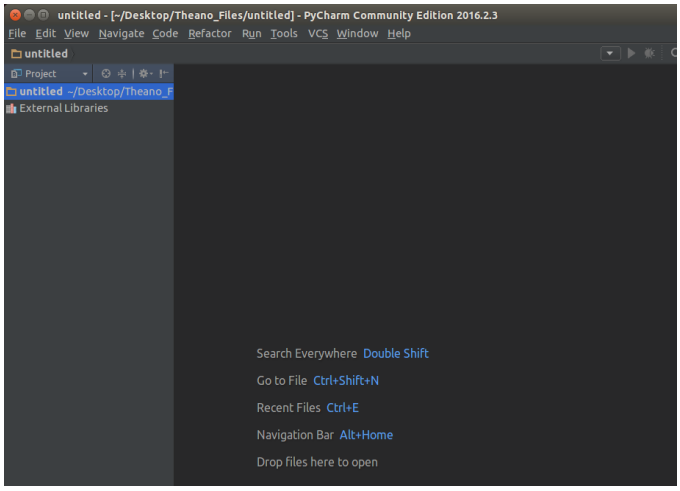

Figure 4: Pycharm IDE Interface

14. Go to the menu bar click on file.
15. Click on New.
16. Click on Pyhton File.
17. Create the pyhton file and pick an arbitrary name.
18. It will open up a new blank page that you can write your caffe program.
19. Before start writing your code, you need to set the CUDA and Python environment.
20. Now, you need to go to menu bar and this time choose Run and under Run.
21. Choose Edit configuration, now you should be able to see the Figure 5

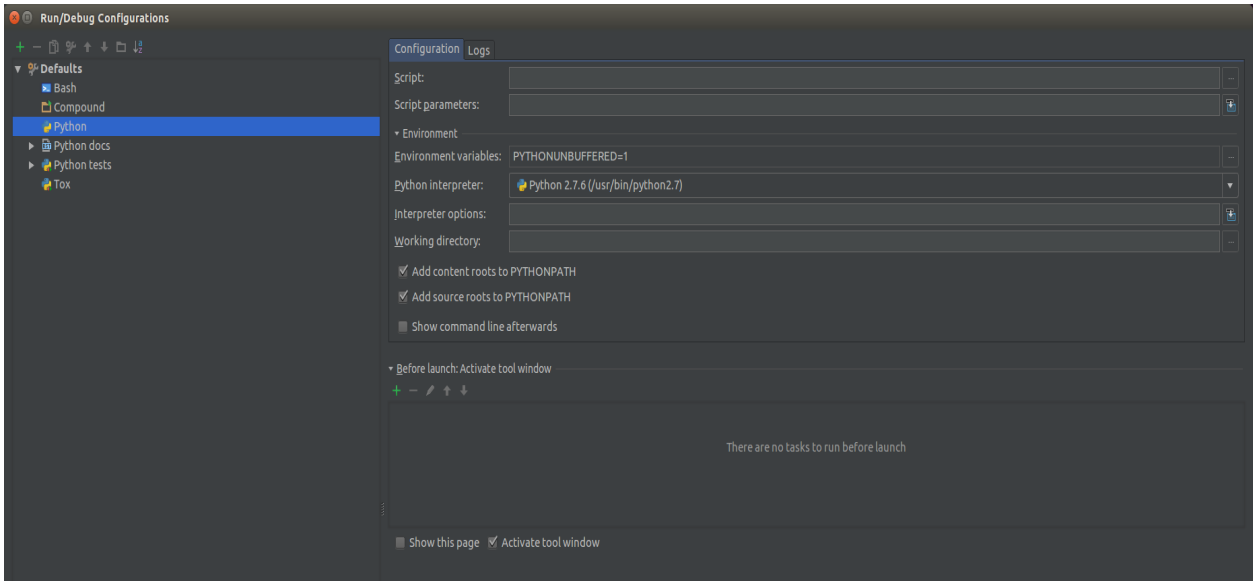

Figure 5: Edit Configuration

22. Now you should be able to find Environment Variable.
23. Click on the three dots icon.
24. Now, you should be able to see the Figure 6.
25. This is the place we need to add our paths of CUDA and Python.
26. There is a green plus icon.
27. Click on it.

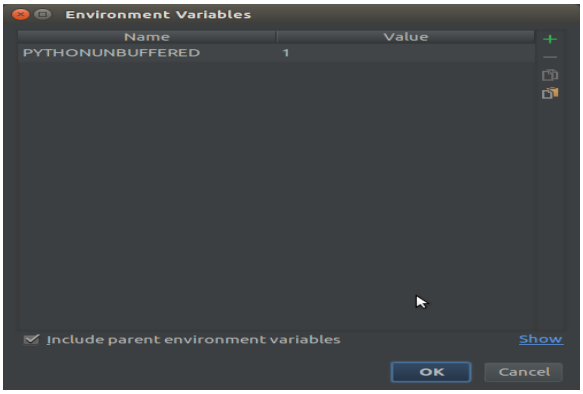

Figure 6: Environment Variable

28. There are two places we need to add our paths and name.
29. In the Name box type the Following
30. CAFFE_ROOT
31. In Value box type the Following
32. /home/martin/caffe
33. Click on the green plus icon again
34. In the Name box type the Following
35. LD_LIBRARY_PATH
36. In Value box type the Following
37. /usr/local/cuda/lib64
38. Click on the green plus icon again
39. In the Name box type the Following
40. PYTHONPATH
41. In Value box type the Following
42. /home/martin/caffe/python
43. Press OK and Finish.
44. Now you should be able to import caffe.
45. **Note: these setting needs to be done just once for each project you creating it for caffe. In other words now if you add another python file to this project under file and new you do not need to redo these settings.**

2 Theano

1. To use Theano software in Pycharm, you need to set the environments for CUDA and Python path.
2. Open up VNC server and use your password to enter the Linux station.
3. By this time you should be able to see the Ubuntu Desktop shown in Figure 7.

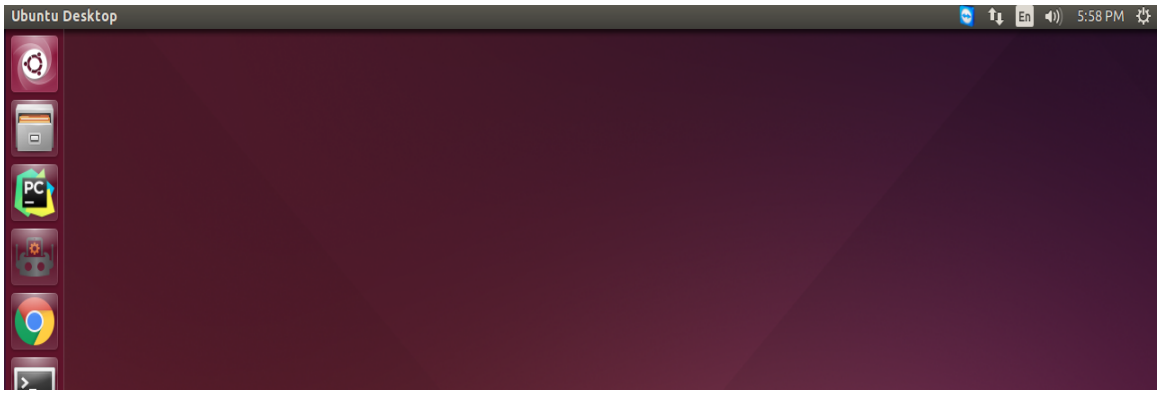

Figure 7: Ubuntu Desktop-Theano

4. On the top left corner of the Ubuntu Desktop, the first icon is search box under the search box is the folder icon.
5. Click on it and go to your directory under your name and put a theano python file there call it test.py .
6. On the top left corner of the Ubuntu Desktop again, the first icon is search box.
7. Click on it and search the terminal.
8. By this time you should be able to see the terminal and launch it by clicking on it.
9. By this time, you should be able to see Figure 8
10. Now you need to use cd commend to change your directory in terminal.
11. For example cd Desktop change your directory to Desktop.
12. Change your directory by using cd command to your folder.
13. now enter the following commands.

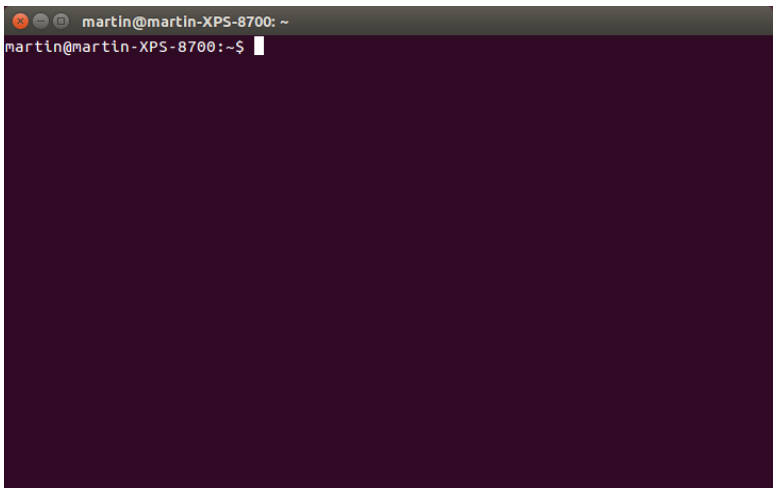

Figure 8: Terminal

```
$ export LD_LIBRARY_PATH=/usr/local/cuda-7.5/lib64:$LD_LIBRARY_PATH

$ export PATH=/usr/local/cuda-7.5/bin:$PATH

$ pycharm-community test.py &
```

14. Now pycharm automatically will open and you can run and test your code.

15. Each you need to work with theano in pycharm you need to start over the process from the first step.

3 Tesnsorflow

1. To use Tensorflow software in Pycharm, you need to set the environments for CUDA and Python path.
2. Open up VNC server and use your password to enter the Linux station.
3. By this time you should be able to see the Ubuntu Desktop shown in Figure 9.

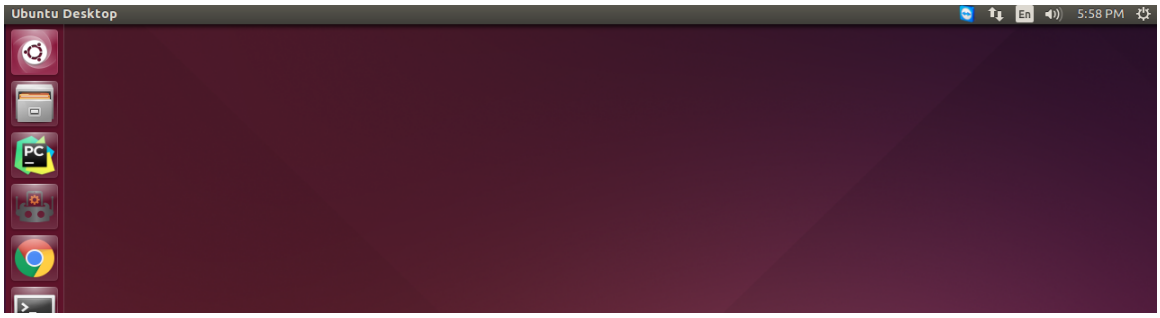

Figure 9: Ubuntu Desktop-Tesnsorflow

4. On the top left corner of the Ubuntu Desktop, the first icon is search box.
5. Click on it and search the word pycharm.
6. By this time you should be able to see the pycharm IDE and launch it by clicking on it.
7. By this time, you should be able to see Figure 10

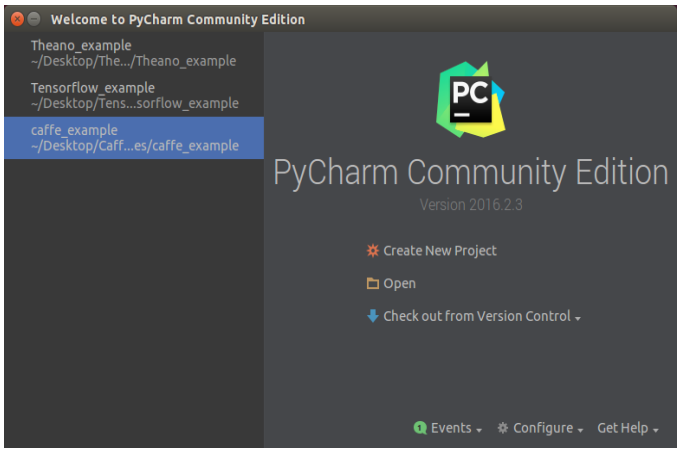

Figure 10: Pycharm IDE-Tensorflow

8. Now, we need to create a project, click on create new project icon.
9. It opens up a new window shown in Figure 11.

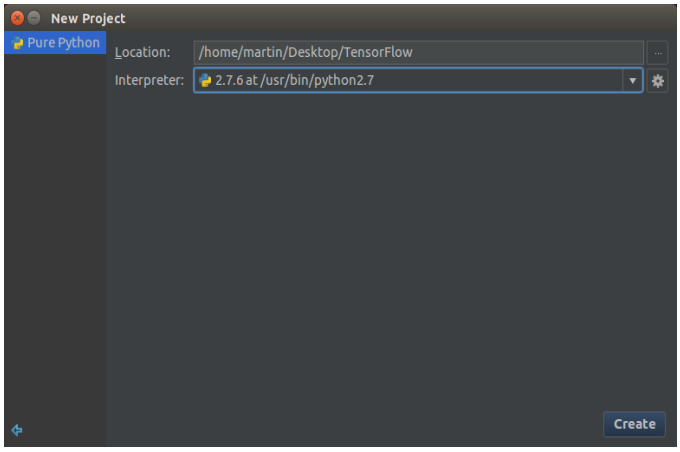

Figure 11: Create New Project -Tensorflow

10. Now you need to set two things Location and Interpreter.
11. Basically, location is the path that you are saving your files (Your folder).
12. Interpreter needs to be set as python 2.7.
13. Now press the gear box in front of the Interpreter.
14. A small window will pop up and click on Create VirtualEnv.
15. Now you should be able to see the Figure 12

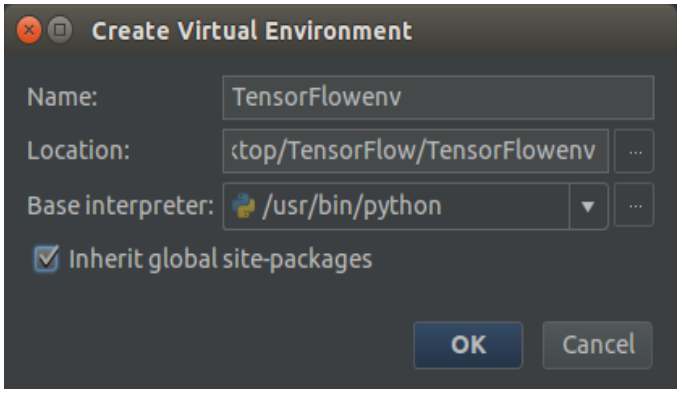

Figure 12: Create Virtual Environment

16. Choose name as TensorFlowenv
17. Basically, location is the path that you are saving your files (Your folder).
18. Check the inherit global site-packages.
19. Click on the 3 dots in front of Base interpreter.
20. It will open up a directories that includes all interpreters shown in Figure 13.
21. Click on python and click OK the press Create.

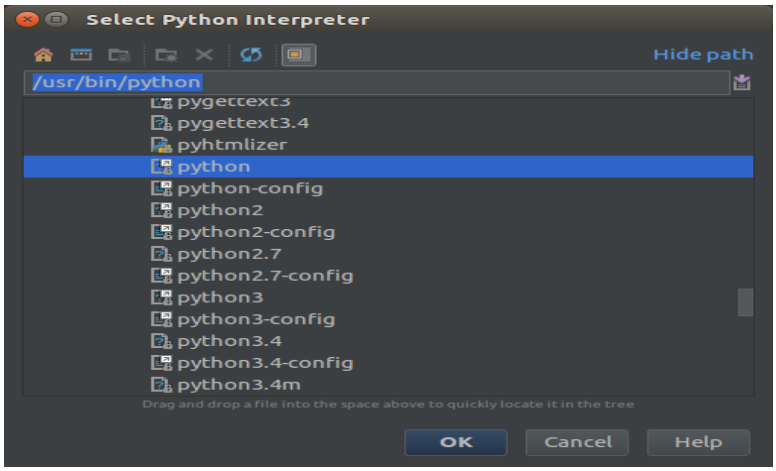

Figure 13: Base Interpreter

22. Now, you should be able to see Figure 14.

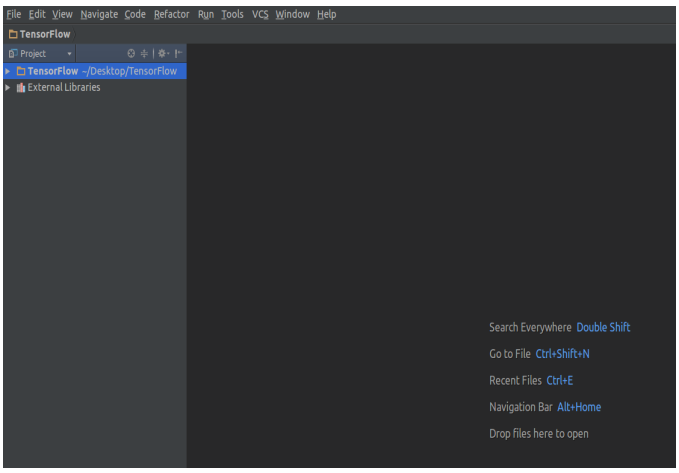

Figure 14: Pycharm IDE Interface Tensorflow

23. Go to the menu bar click on file.
24. Click on New.
25. Click on Pyhton File.
26. Create the pyhton file and pick an arbitrary name.
27. It will open up a new blank page that you can write your Tensorflow program.
28. Before start writing your code, you need to set the CUDA and Python environment.
29. Now, you need to go to menu bar and this time choose Run and under Run.
30. Choose Edit configuration, now you should be able to see the Figure 15

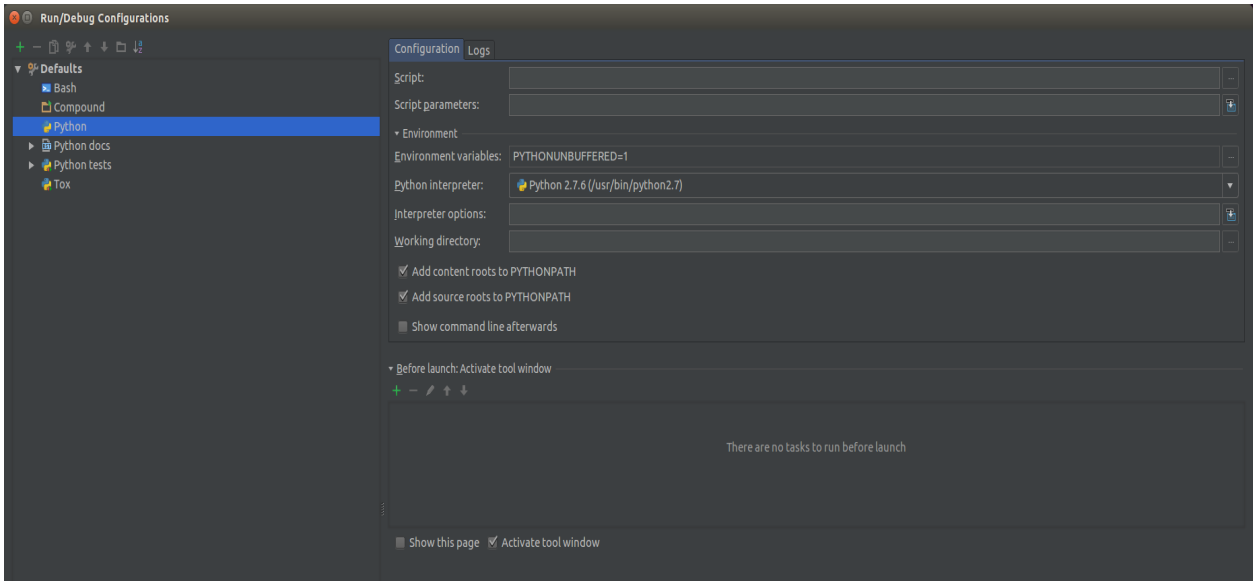

Figure 15: Edit Configuration TensorFlow

31. Now you should be able to find Environment Variable.
32. Click on the three dots icon.
33. Now, you should be able to see the Figure 16.
34. This is the place we need to add our paths of CUDA and Python.
35. There is a green plus icon.
36. Click on it.

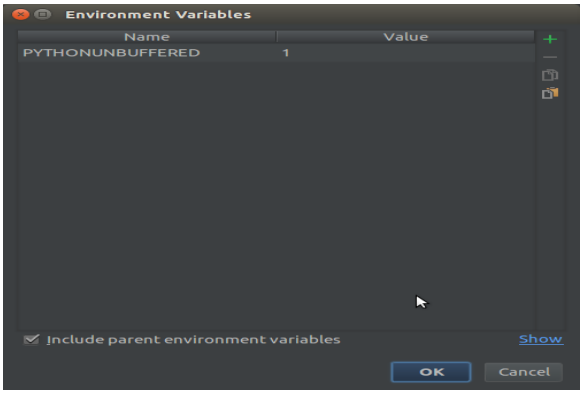

Figure 16: Environment Variable Tensorflow

37. There are two places we need to add our paths and name.
38. In the Name box type the Following
39. PATH
40. In Value box type the Following
41. /usr/local/cuda-7.5/bin
42. Click on the green plus icon again
43. In the Name box type the Following
44. LD_LIBRARY_PATH
45. In Value box type the Following
46. /usr/local/cuda/lib64
47. Press OK and Finish.
48. Now you should be able to import Tensorflow.
49. **Note: these setting needs to be done just once for each project you creating it for Tesnsorflow. In other words now if you add another python file to this project under file and new you do not need to redo these settings.**