ML-lab-01

ISSAC LEE

4/19/2017

Introduction to Tensorflow

Tensorflow is an open source software library for machine learning tasks which was originaly developed by Google brain team. For the beginner, you can think a software library means a collection of computer code which are useful for acheving a specific task. Also, when the code is open source, it means that anyone can access to the codes without any restriction. Now, tensorflow is used by many researchers and companies in various feild such as image recognition, speech recognition etc.

Tensorflow was written in python language which is one of the popular computer languages. However, tensorflow provides many extensions to other computer languages such as C++, Java and so on. Recently, tensorflow can be used in R, one of the most popular computer languages in data science feild, as a package. By connecting tensorflow and R, R users now can exploit both the powerful visualization ability from R and the fast computation abiblity from tensorflow at the same time.

In this tutorial, we will learn:

1. How to import the tensorflow into R
2. Understand the session in tensorflow
3. How to define constant and place holder in tensorflow

1. Hello tensorflow!

To import the tensorflow into R, we will use `library` function as follows:

```
library(tensorflow)
```

After importing the tensorflow library, you will notice that R will automatically detect the `tf$` command as a tensorflow command. This lecture is written based on the tensorflow version 1.0.1. To check the version of your tensorflow, you need to type the following command in the console:

```
tf$VERSION
```

Now, let us try to print “Hello, tensorflow”.