Keras Introduction

References:
https://medium.com/implodinggradients/tensorflow-or-keras-which-one-should-i-learn-5dd7fa3f9ca0
https://keras.io/#installation

Tensorflow is the most famous library used in production for deep learning models. It has a very large and awesome community. The number of commits as well the number of forks on TensorFlow Github repository are enough to define the wide-spreading popularity of TF (short for TensorFlow). **However TensorFlow is not that easy to use**.

Keras is a high level API built on TensorFlow!!!

If you want to quickly build and test a neural network with minimal lines of code, choose Keras. With Keras, you can build simple or very complex neural networks within a few minutes. The Model and the Sequential APIs are so powerful that you can do almost everything you may want.

Sometimes you just don’t want to use what is already there but you want to define something of your own. We all know that **low-level libraries provides more flexibility**. Same is the case with **TensorFlow.**

Keras Installation

- First Install tensorflow with virtualenv:

https://www.tensorflow.org/install/install_linux#InstallingVirtualenv

- Installing keras

https://keras.io/#installation

Install a few Python dependencies:

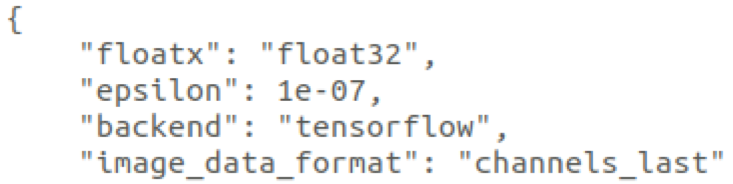
```
$ pip3 install numpy scipy
$ pip3 install scikit-learn
$ pip3 install pillow
$ pip3 install h5py
```

Followed by installing keras itself:

```
$ pip3 install keras
```

Keras is now installed on your system!

From there, you should see that your **keras.json** file (~/.keras/keras.json) now exists on your local disk



```
{
    "floatx": "float32",
    "epsilon": 1e-07,
    "backend": "tensorflow",
    "image_data_format": "channels_last"
```

To verify that Keras + TensorFlow have been installed

Start tensorflow on virtual env

```
cd tensorflow/
source ./bin/activate
```

Start the python interpreter

```
(tensorflow) user@machine: pyhton3
```

Digite “import keras”, a sentence “Using tensorflow backend” should be shown

```
>>> import keras
Using TensorFlow backend.
```