Deep Learning Environment

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1 Deep Learning with Keras environment installation

Deep learning can be used using various frameworks such as Tensorflow, PyTorch, Keras etc. Among them Keras has a relatively easier learning curve and we are going to use Keras framework for deep learning labs. You need to install and verify following packages in order to run Keras successfully.

2 Confirm your SciPy environment

Check the version number of the key SciPy libraries you require for deep learning machine learning development, specifically: SciPy, NumPy, Matplotlib, Pandas, Statsmodels, and Scikit-learn.

Use the code below if you have everything ready. If not install the required packages - scikit-learn.

[1]:
```
# scipy
import scipy
print('scipy: %s' % scipy.__version__)
# numpy
import numpy
print('numpy: %s' % numpy.__version__)
# matplotlib
import matplotlib
print('matplotlib: %s' % matplotlib.__version__)
# pandas
import pandas
print('pandas: %s' % pandas.__version__)
# statsmodels
import statsmodels
print('statsmodels: %s' % statsmodels.__version__)
# scikit-learn
import sklearn
print('sklearn: %s' % sklearn.__version__)
```

```
scipy: 1.5.2
numpy: 1.19.2
matplotlib: 3.3.2
pandas: 1.1.3
statsmodels: 0.12.0
sklearn: 0.23.2
```

3 Install Tensorflow and Keras

On your Anaconda command prompt type following

$ conda install theano

$ pip install tensorflow

$ pip install keras

To check successful installation write the following scripts.

[2]:
```
# theano
import theano
print('theano: %s' % theano.__version__)
# tensorflow
import tensorflow
print('tensorflow: %s' % tensorflow.__version__)
# keras
import keras
print('keras: %s' % keras.__version__)
```

```
theano: 1.0.4
tensorflow: 2.4.1
keras: 2.4.3
```