

# How to Install Theano and Keras

## (on Windows)

<sup>1</sup>Department of Computer Engineering  
University of Modena And Reggio Emilia

This manual will show you how to install the Theano and Keras libraries for Deep Learning tutorials. Please note the following:

- ▶ This refers to Windows. For other platforms you can search the Internet :) (should be easy)
- ▶ We will perform the installation for CPU. For real projects and research with deep learning one should install the Nvidia Cuda libraries and all the resources for GPU acceleration.

# Python environment

First things first:

- ▶ Install Anaconda for Python2.7  
(<https://www.continuum.io/downloads>)
- ▶ Install a python IDE. Our suggestion is PyCharm<sup>1</sup>  
(<https://www.jetbrains.com/pycharm/>).
- ▶ Install Git for windows  
(<https://git-scm.com/download/win>)

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<sup>1</sup>The professional release is free for students!

# Theano and Keras

From now on, we will refer to

<https://keras.io/#installation>

- ▶ Open an Anaconda Command Prompt (Start - search for "Anaconda Prompt")
- ▶ Install Keras dependencies (some of them are included in Anaconda, do not downgrade anything if requested!)

```
conda install -c anaconda <package>
```

- ▶ pyyaml
- ▶ hdf5
- ▶ h5py

## Theano and Keras (2)

- ▶ Install mingw and libpython

```
conda install mingw libpython
```

- ▶ Install Theano

```
pip install git+git://github.com/Theano/Theano.git
```

- ▶ Install Keras

```
pip install git+git://github.com/fchollet/keras.git
```

# Configure Theano

Create the file `.theanorc` in the user home:

```
[global]
device = cpu
floatX = float32
```

# Test it!

- ▶ Create a new Pycharm project and try to run **this code**.
- ▶ If everything is fine, you should see a neural network training with fancy progress bars.
- ▶ Do not worry if the code takes long to start the training (it's fine).
- ▶ Do worry if some exception shows up.