README File

Dear students

This directory contains several notebooks that are meant to illustrate the Deep Learning for time series part of the course

Each notebook runs under Google Colaboratory.

Do not forget to check that you run on a GPU.

Here is a detailed list of those notebooks, including what you have to do.

* **time-series-prediction-with-keras-for-beginners.ipynb**. This notebook is the example I described during the class, where we tried to predict BitCoin price. There is nothing to do except run it yourself if you want
* **0\_data\_setup.ipynb.** This notebook is how you will get the data. Look at it, this is repeated in every following notebook.
* The rest of the notebooks are for you to play with, there is something there for you to do. For the first 3, there is a \_student\_ file and a \_correction\_ file. Please do the \_student\_ and only look at the \_correction\_ if you are completely lost.
  + The first 3 notebooks implement CNN, RNN, and encoder-decoder for univariate time series.
  + In the third one, a convenient class is introduced: TimeSeriesTensor, that you can find in the utils.py file of the common subdirectory. This class is useful to load and prepare the data. It automates what you have done before manually.
  + The fourth, fifth and sixth notebooks are without a correction. You will have to do the same as in the first three, but for multivariate time series. The only part to code is the network itself. The rest is written for you.

Have fun!