Exercise 2b - 21 March 2016
First Team Task (MLP)

Deadline: 04.04.2016

With this exercise you should use your framework for applying an MLP approach to the MNIST dataset.

The goal of this exercise is to train an MLP with one hidden layer. And experiment with different parameters.

Reminder: As already discussed. From now on you are free to either implement algorithms on your own or use any kinds of libraries.

MLP

Use the provided training set to train an MLP with one hidden layer. Apply the trained MLP to classify the test set. Perform cross-validation with the following parameters:

- Optimize number of neurons in the hidden layer (typically in the range [10,100]).

- Optimize learning rates (typically in the range [0.1,1])

- Optimize number of training iterations. Plot a graph showing the error on the training set and the validation set, respectively, with respect to the training epochs.

- Perform the random initialization several times and choose the best network during cross-validation.

Expected Output

- Access to your github so that we can inspect your code.

- Plot showing the error-rate on the training and the validation set with respect to the training epochs.

- Test accuracy with the best parameters found during cross-validation.