Neural Networks and Deep Learning

Cracow University of Technology

Lab Assignment 8:

Task: Implementation of a classification task using early stopping and batch normalization using Keras library.

Using the same code you implemented in lab 6, add early stopping regularization technique and batch normalization to it.

In this laboratory, you are asked to add early stopping and batch normalization to the neural network you implemented in lab 6 with the difference that this time your network has 3 hidden layer (in lab 6 it was your decision). Then compare the result with the network without using these techniques in terms of train and test accuracies.

- In early stopping, validation loss is the performance measure to finish the training.
- Add batch normalization layer and in model.fit try two different batch sizes.
- Set epsilon=0.001.
- Use batch normalization for the output of all hidden layers in the network.
- While having ReLU activation for hidden layers try using batch normalization before and after applying activation function. Which one works better?