Exercise 2d - MLP

Using the MLP script from exercise 2b on the permutated MNIST dataset, we obtained an accuracy of 99.4% and average loss of 0.025170 on the training set, and an accuracy of 78.6% and average loss of 0.793725 on the testing set. Using the model trained on the non-permutated MNIST dataset, we obtain, for the testing set, an accuracy of 12.5% and an average loss of 5.708226. In other words, barely more than a random classifier. These results surprised us, we expected a lower result than a model trained on the correct dataset, but not to this point. This is probably because the MLP learns the structures of the images it is tested on. Therefore, with a lack of the expected structure, the classifier trained on the non-permutated data cannot classify correctly.