Pattern Recognition Report - Serie 2d - Permutated MNIST

JungleSpeed

Contents

1 Preparation

As we build task 2b with keras, we had to port the model to pytorch for deep diva (`model_task2d.py`). The command line code we used are in the header of the `model_task2d.py` file.

2 Results

By running the two deep diva models on both sets with the best parameters selected in task 2b and 2c we get following results:

model	dataset	loss value	accuracy
`PR_MLP2B`	MNIST	1.4905	0.9717
`PR_MLP2B`	permuted MNIST	1.4925	0.9702
`PR_CNN`	MNIST	0.0712	0.9852
`PR_CNN`	permuted MNIST	0.1419	0.9672

Table 1: Model comparison

As expected, the MLP has a similar accuracy for the permuted MNIST, the permuted pixel seems to have no influence on the classification for this network. For CNN, the permuted MNIST has a slightly lower accuracy than the normal MNIST set, a (possible) override of the pixel order by random permutation would have made it harder for the CNN to detect features.