

Pattern Recognition Report - Serie 2d - Permuted MNIST

JungleSpeed

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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

We clearly see that the permuted MNIST performs worse than the normal MNIST. This could be due to that we don't estimate the best parameters for the permuted set. Additional, for the CNN the difference in the accuracy is higher than for the MLP, (possibly) overriding the order of pixels by random permutation could have made it more difficult for the CNN to detect features.