Cognitive Algorithms: Assignment 4

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Exercise 2

The dimensionality of X_{train} is $D_X \times D_X$.
The dimensionality of W is $D_X \times D_Y$.
The dimensionality of Y_{test} is $D_X \times N_{\text{te}}$.

Exercise 3

The training set contains 5000 data points. The test set has 5255 data points. There are 192 e electrodes used in the experiment.

Exercise 4

Of course the training data performs better and the predictions are more accurate. But especially in the diagram at the bottom which shows time and y-axis makes it clear that the prediction is sometimes very inappropriate.

Exercise 5

When you use the non-logarithmized data you clearly see that the performance difference between training and test data becomes less.
Actually the smaller difference arises from the fact that the OLS performs worse for its own training data than with logarithmized data.

Exercise 6

Yes! But we don't know the true relationship. Here we are using the logarithm, it could be coincidence that we perform much better with it, maybe some polynom will perform even better?