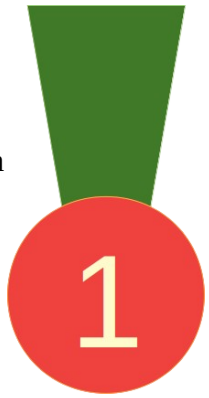
Competition A: Deep Neural Networks



For exercise 2 (deep neural networks analyzing "secret keys") each group can submit

- one file with saved trained parameters
- one jupyter notebook reading the trained parameters of the model from the first file and applying the fit of the network to data with L=7 as in the exercise, data clearly in the hands only of the prof. The file with data will be called "secretkeys_competition.csv"

By reading the data, file number 2 must generate an output of predicted labels "y", one per row. As in the exercise y=0 means no secret key and y=1 means its presence.

The network must contain at most the same two layers of the exercise (LD/2 and LD/4 nodes, rounded up) in addition to the LD nodes in the input. For the rest, parameters, dropouts, functions, etc. can be chosen according to the experience of the group.

Names for files 1 and 2 should be:

GROUPNAME_parameters_A.h5
GROUPNAME_competition_A.ipynb

The output file should be called

GROUPNAME_predictions_A.ipynb

The group providing the method with the best accuracy on the test data will get a bonus for the final score of the course, in a form to be decided later.

Competition B: Convolutional Neural Networks

For exercise 3 (convolutional neural networks analyzing time series) there is the same scheme as for Competition A, and the same reward.
Each group can submit

- one file with saved trained parameters
- one jupyter notebook reading the trained parameters of the model from the first file and applying the fit of the network to data with L=60 as in the exercise. The file with data will be called "timeseries_competition.csv"

By reading the data, file number 2 must generate an output of predicted labels "y", one per row. As in the exercise y=0 means no external signal, y=1 means its presence with positive sign, and y=2 means its presence with negative sign.

In this case the constraint remains that of the exercise, namely of building a network with at most 600 trainable parameters.

Names for files 1 and 2 should be:

GROUPNAME_parameters_B.h5
GROUPNAME_competition_B.ipynb

The output file should be called

GROUPNAME_predictions_B.ipynb