

# 6TH EXERCISE SESSION

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## Convolutional Neural Networks (CNNs)

### 1. “The Hello World of Artificial Intelligence”

Make a convolutional neural network (CNN) classifier for classifying handwritten digits given in the MNIST database (<http://yann.lecun.com/exdb/mnist/>) that is also with this assignment. Comment your code well explaining each step and report classifying error / accuracy. Visualize examples of possible miss-classification. Submit a report and program code(s).

### 2. Dogs vs. Cats

Make a convolutional neural network (CNN) classifier for classifying dogs and cats. Use data from Kaggle (<https://www.kaggle.com/c/dogs-vs-cats/data>) that is also with this assignment. Comment your code well explaining each step and report classifying error / accuracy. Submit a report and program code(s).

Please notice that the problem of distinguishing dogs and cats has been long time very hard to computers although even a little child can do that, and only very lately computers have been able to achieve the performance comparable to human. Therefore do not get disappointed if you do not obtain good results.