Institute for Computer Science VI, Autonomous Intelligent Systems, University of Bonn

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http://www.ais.uni-bonn.de/WS/4204_L_NN.html

Exercises for module Technical Neural Networks (MA-INF 4204), WS24/25

Programming Assignments B, due: Monday 4.11.2024

28.10.2024

Programming-Assignment PA-B (5 Points, due 4.11.2024)

Implement and train an MLP to solve so called encoder-decoder tasks.
You can use your own MLP implementation or a working one from a library. In case you use a library, explicitly tell us which one and describe how to access it (e.g. a detailed description in the comments of your source code).

Start to implement an MLP to do the *8-3-8* task, with 3 layers, having 8 input neurons, 3 hidden neurons and 8 output neurons. The input and teacher values shall be 0.0 or 1.0. Choose appropriate transfer functions and learning parameters (report them).
Train the network with Backpropagation of Error, until a resonable result is achieved.

Print or depict the resulting input and output values after you finished learning. While learning, show the learning curve, and try to visualize the states of the three hidden neurons for all 8 patterns.

Redo the above steps for the *8-2-8* task.

Redo the task for either the *50-2-50* case or the *64-6-64* case.