
Tutorial for

Introduction to Computational Intelligence in Winter 2009/10

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<http://ls11-www.cs.uni-dortmund.de/people/rudolph/teaching/lectures/CI/WS2009-10/lecture.jsp>

Sheet 2, Block A

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Exercise 2.1: Perceptron Learning (5 Points)

Implement the perceptron learning algorithm (lecture 1, slide 27) in your favorite programming language. Apply the algorithm to the given test sets (testset1.txt, testset2.txt, testset3.txt). The files contain one example per line and the classification as last value (1: positive example, 0: negative example) of each line. Plot the first and second test set displaying positive and negative examples by different symbols. Visualize the resulting hyperplane of the perceptron.

Exercise 2.2: Classification into more than two classes (5 Points)

How could an ANN be enhanced such that it is able to classify inputs into more than two classes? Think about as many concepts as possible and describe at least three concepts in detail.