DEPARTMENT OF ENGINEERING CYBERNETICS, NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

TDT4171 Exercise 5

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1 IMPLEMENTATION

1.1 BACKPROPSKELETON.PY

Here I implemented the functions COMPUTEOUTPUTDELTA, COMPUTEHIDDENDELTA and UPDATEWEIGHTS according to formulas found in the book and the assignment text. In addition to this, COUNTMISORDEREDPAIRS was implemented by iterating over all pairs, running propagate, and comparing the output.

1.2 DATALOADERSKELETON

Here, I made sure that RUNRANKER was ran 5 times, with 25 epochs. After this, the average values over these 5 runs are plotted, one for test-data and one for training-data.

2 RESULTS

Below, a resulting figure from 5 runs over 25 epochs is shown:

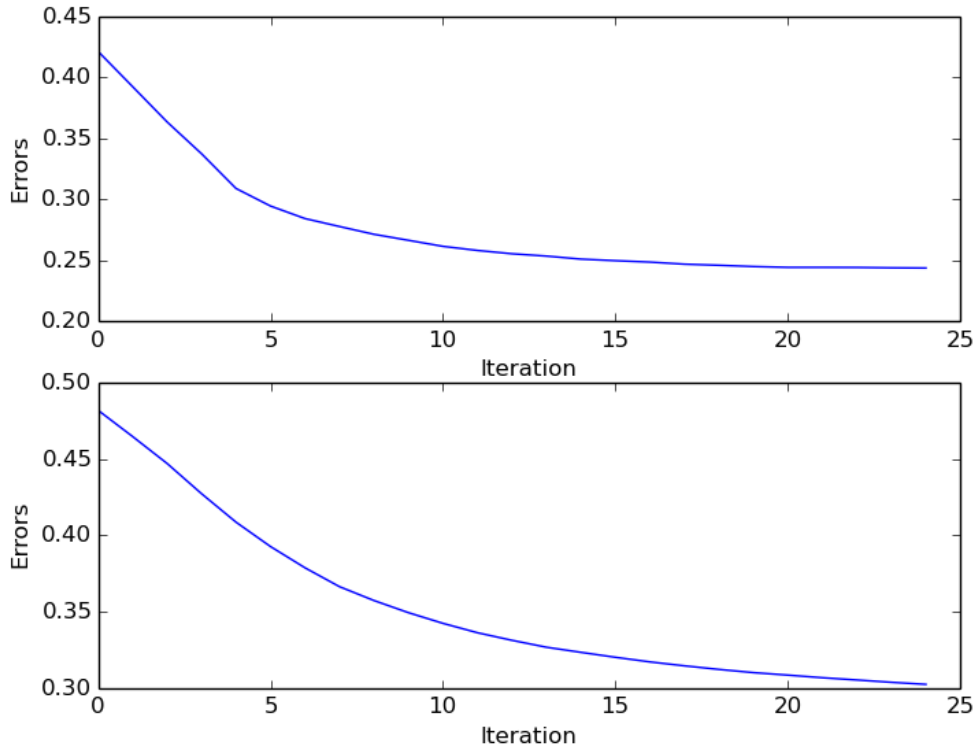

Figure 2.1: The upper graph shows average results on training-sets, the lower shows average results on testing-sets

It is obvious from Figure 2.1 that the results improves for each epoch. on the training-sets we see that we have more or less convergence, while the testing-sets could have been ran for even more epochs, as it is clear that it's got some potential for improvement.