Artificial Intelligence Methods

Assignment 8

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1 Exercise 1 - Neural Networks

In this exercise I have two models of neural networks. The first model is a "feedforward"-version consisting of an input layer with input size the same as the total number of unique words in the dataset and an output layer with the same dimension as the total different reviews. The model has three intermediate layers; one dense layer of 128 units and a Re-LU activation function for all of them and two flattening layers. The model is finally compiled by experimenting with different optimiser- and loss-parameters, though I found adaldelta with learning rate = 0.1 to be most effective and with binary cross entropy as loss function since this exercise is a classification problem rather than categorization problem. The same is true regarding the recurrent model, however the hidden layers consists of a LSTM (Long Short Term Memory)-unit followed by a dropout-layer for regularization and then a flattening layer. Underneath follows a screenshot of the terminal output.

Please Note: I have not been able to achieve an accuracy of 90% on the test data. I seem to get stuck at 70% accuracy. Also, I think there is something wrong with the loss calculation as it in the terminal displays 0.6 loss which obviously can't be correct if the accuracy is around 0.7.