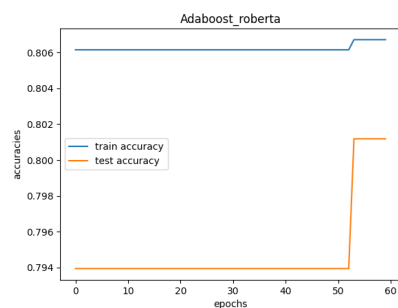


# bagging and adaboost with perceptron

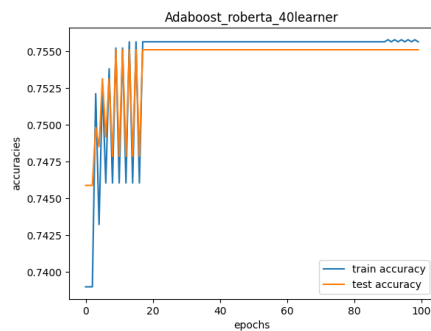
I tried bagging using 40 average perceptrons, each trained on 1/2 of the roberta training data sampled randomly. It achieved an accuracy of 82.5% on the eval data, which is slightly worse than the performance of an average perceptron (82.8%) I trained.

I also tried adaboost using 30 average perceptrons each trained on 1/2 of the roberta training data sampled randomly. It achieved an accuracy of 81.97% on the eval data. I then also tried 40 average perceptrons, each trained on 1/40 of the training data. The accuracy is lower.

30 learners adaboost:



40 learners adaboost:



I don't know why adaboost is not overfitting. I already confirmed that the learners used in the final hypothesis all have weighted error less than 0.5. The training error should converge to 0 theoretically.

Later in the semester, I plan to use the support vector machine, logistic regression and a neural network that learns by ranking two examples.