

CS760 Spring 2019 Homework 3

Due Mar 26 at 11:59pm

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Written Problems

Part3

Datasets: magic

Learning rate: 0.01

Max num of epochs: 30

Number of hidden units: 10

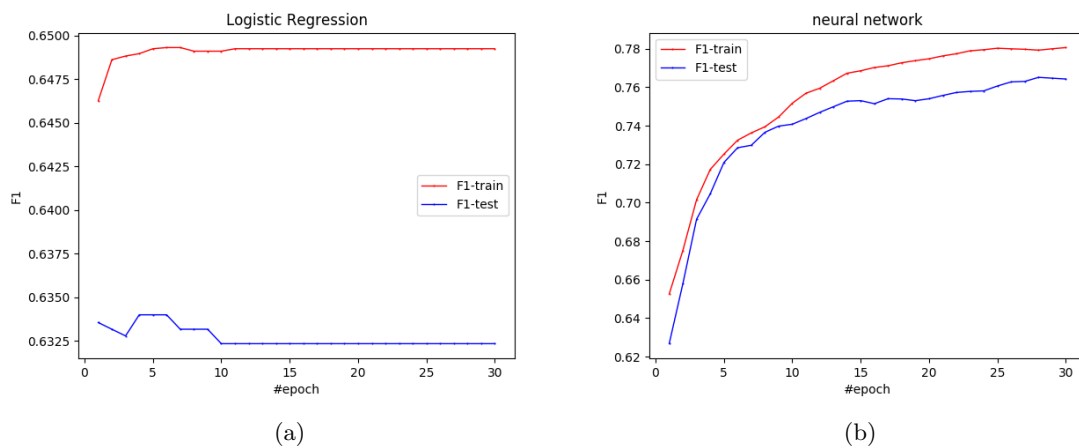


Figure 1: (a) F1 scores for logistic regression (b) F1 scores for neural network.

For logistic regression, F1-score for training data increases with number of epochs increases. However, F1-score for test data decreases. This indicates that overfitting occurs for logistic regression.

For neural network, F1-scores for both training and test data increase as number of epochs increases. Overfitting doesn't happen for neural network.

Unless the number of epochs is very small, neural network outperforms logistic regression.