Machine Learning Assignment IV

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November 8 2021

0.1 Logistic Regression

The graph for both gradient descent and newton method is done. When the program was executed few things were observed. The Gradient descent when started with smaller iterations gave pretty big error but reduced when the number of iterations grew. Whereas the newton method started with smaller errors but as the number of iterations grew the errors grew as well. But the errors again fell down when the number of iterations were very large.

Another thing that was observed is that when learning rate was used as an hyper-parameter a very small learning rate was enough for gradient descent to learn well but in case of newton method for some reason it needed bigger learning rate for it to learn well.
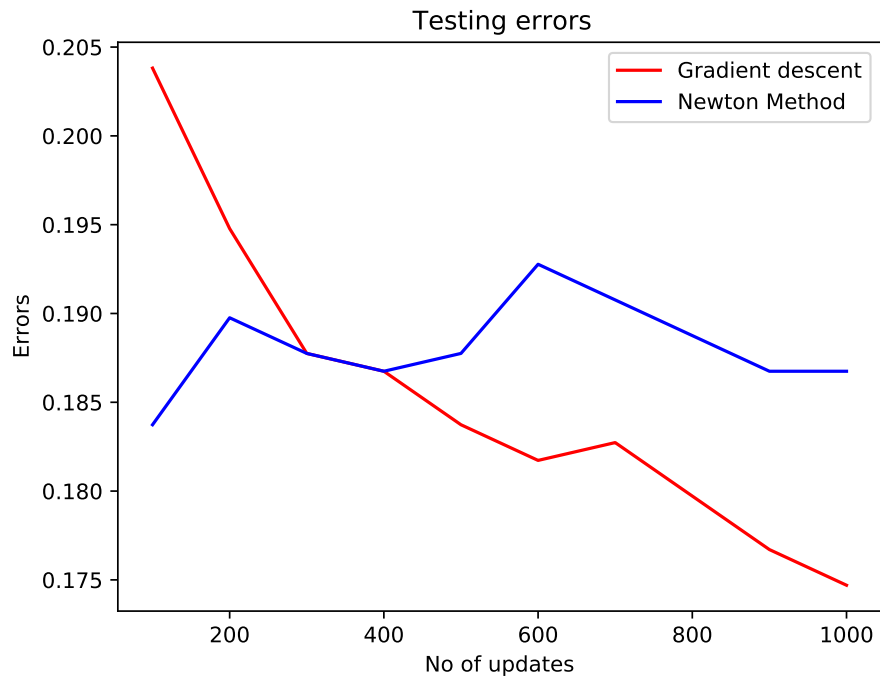

Figure 1: Testing errors