Home Assignment 2_Part 1 report

Kindly find below report for assignment question:

Question 1 : Implement Incremental Extreme Learning Machine to deepen the understanding of the random network.

- Wrote the MATLAB code (assignment_elm.m file) for I-ELM.
- Tested the written code with mnist classification dataset and blog feedback regression dataset
- Classification results and regression results are as below:

Figure 1 – Training and testing accuracy and timing for Mnist classification data

COMMAND WINDOW

```
>> assignment_elm("mnist_train.csv","mnist_test.csv", 0)
Training time =
    0.1900

Testing time =
    0.1100

Training accuracy =
    0.8080

Testing accuracy =
    0.1001
```

Figure 2 – Training and testing accuracy (RMSE) and timing for BlogFeedback regression data

COMMAND WINDOW

```
>> assignment_elm("Regression_TrainingData.csv","Regression_TestingData.csv", 1)
Training time =
    0.1100

Testing time =
    0.0500

Training accuracy =
    0.3953

Testing accuracy =
    0.2367
```

- Steps to run an Incremental Extreme Machine Learning algorithm MATLAB code:

1. Execute the commands as shown in the figure in command window for both the datasets. Kindly pass parameters to the function as : 1. Training dataset 2. Testing dataset 3. If regression, pass 1 or 0 for classification.