CSE 6005- Machine Learning
Lab Practice Sheet 4 (Artificial Neural Networks)

Date of Completion : 10/05/2020, 11.59 P.M

- You are supposed to answer the following questions after doing the appropriate experiments.
- Every answer should be supported by the experiment(s) with the details: Objective of the experiment, Design of the experiment, Algorithm and the related code and the inference from the experiment.
- Choice of the data-set for any experiment is your choice, but the data set should be a multi-variate data set.
- Answer for every questions should be in the form of a report with the details of the experiments performed with justification.

1. Design a two-layer network of perceptrons that implements A XOR B.

2. Implement a Back Propagation Algorithm with a Multilayer perceptron to learn the class from a data set of your choice, for a 2-class classification problem. Perform the experiment for the same data set with two different activation functions A_1, A_2 and with two different learning factors η_1, η_2). Conclude, for which pair $(A_1, \eta_1) or (A_2, \eta_2)$, convergence is fast.

3. Implement a regression based supervised learning model for a data set of your choice, through a Multi Layer Perceptron.