The Perceptron

(Single Layer Neural Network)

Deadline: 15 Nov 2021

SML Lab Assignment 6

Instruction: It is valid for all questions.

1. Apply the Perceptron approach to solve the classification problem using pen and paper and submit the scan copy. (Only for Question 1)
2. Write the python code and generate the output and submit the colab file and pdf file.

Q.1 Implement the basic logic gate operations through the perceptron single layer neural network-based classifier. The logical gate operations are AND, OR, and NOT. Write the complete code for perceptron and plot the datasets and show the linear classifier in the figure.

Q.2 Find two real-world classification datasets from UCI Repository (https://archive.ics.uci.edu/ml/index.php) and implement the perceptron classifier with the sigmoid activation function. Solve the supervised machine learning classification problem and plot and show the classifier along with the data points on the graph. For reference, one dataset is uploaded on LMS, named Haberman.csv.

----------All the Best----------