LCC MACHINE LEARNING HACKATHON

TEAM NAME : DYNAMIC DUO

WORKING OF THE MODEL

The model used for the given supervisied classification problem is Logistic regression.

Firstly a hypothesis:

$$y = WX + b$$

is assumed,where X[n * m] is the training set and W is a [1 * n] matrix.

Initially W & b are initialised to 0. As it is a binary classifcation problem, to bring down the value of y to a value between 0 and 1, the activation function is used. Here the sigmoid function is used for that.

$$A = sigmoid(y)$$

A loss function is used to find the loss of every A in the training set and the average of it gives us the cost function. To find the minimum cost, gradient descent technique is used. The values of W and b are continously changed using the value of alpha and dW and db. The values dW and db are obtained using back propogation. As W and b are made to change continously, the cost also keeps differing. Therefore the values W & b are made to change until convergence, i.e., until we obtain the minimum cost. For this a number of iterations are given until the cost becomes constant meaning the minimum cost is obtained. The graph of Cost vs Iterations gives us the convergence point. Once the minimum cost is obtained, extract the value of W and b. Substitute this value of W and b in the hypothesis with X being the test set and obtain the output. Therefore, the model is trained to predict the target of the dataset.