#ML DAY 1

#PART 2

#Cost Function Onwards

COST FUNCTION

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A function that is used to find the loss in a prediction , more precisely ,a function which helps in minimising the loss .

(MEAN SQUARED ERROR)-mesures the difference between the predicted value(THE LABEL Or PREDICTION) and the predictor value(DATASET)

MSE=1/n \* sum of(y-prediction(x))^2 where (x,y) belongs to the dataset

LOG LOSS= -(ylog(p) + (1-y)log(1-p))

Usually a ML Algorithm is trained by initially giving it a sample weight data and bias data and then the value is gradually changed and the algorithm Is trained in such a way that the model encounter the least loss.---IN THE AUTHORS WORDS IT’S A HOT AND COLD GAME kids play.

GRADIENT DESCENT

CONSIDER AN PARABOLA that opens upward and the bottom most point or the apex of the parabola is the point where we encounter the least loss. i.e a gradient descent function is used to iterate the parameters of the model .Parameters as weight in Neural and linear co-efficient in regression.

We can move in different paths while travelling to the local minima of the parabola. The learning rate shouldn’t be MUCH HIGH and it SHOULDN’T BE that MUCH SLOW or the t.values might converge In someother point

(REFER MLDAY1 of the same repository to find out visual example)

TRAINING SET- the data set to train the model

TEST SET-the data set which act as the new proxy data set for testing the model.

LOGISTIC REGRESSION

A Mechanism which is used to give the output as a probablility..

In logistic regression we do the sum of products of input(x) and their corresponding weights(w) and apply an Activation Function

Various Activation functions-Sigmoid function,Hyperbolic tangent function(tanh)

SIGMOID FUNCTION-it gives a result between 0 and 1.

P=1/(1+e^-y)

Where y=w1x1+w2x2+w3x3+….

Where p is the predicted output

TENSOR FLOW is a framework that is used to build machine learning models.