$$Gradient\ descent$$

$Step\ -\ 1: Inputs\ will\ pass\ through\ weights\ and$

$the\ activation\ of\ linear\ combinations\ is\ provided\ by\ a\ Neuron$

$$Forward\ prpogation$$

$$linear\ combinations\ =\ b\ +\ W\ *\ X$$

$$Activation\ on\ linear\ combinations\ =\ A(b\ +\ W\ *\ X)$$

$Step\ -\ 2: Will\ caclulate\ the\ error$

$Step\ -\ 3: will\ minmise\ the\ error\ by\ going\ back\ and\ updating\ the\ weights$

$$Backward\ prpogation$$

$Forward\ prpogation:\ \ Inputs$

$Backward\ prpogation: Updae\ the\ weights$

$It\ is\ a\ iterative\ process\ untill\ we\ minise\ the\ error$

$By\ using\ Gradient\ descent\ algorithm\ will\ update\ the\ weights$

$$w_{new} = w_{old} - \alpha * \frac{dJ}{dw_{at=w_{old}}}$$

X= [1,2,3,4,5]

Y=[11,12,13,14,15]

$$w_{new} = w_{old} - \alpha * \frac{dJ}{dw_{at=w_{old}}} \quad (we\ are\ applying\ on\ LR)$$

$Step\ -\ 1: wil\ intilaise\ weights\ and\ bias\ randomly$

$Step\ -\ 2: inputs\ pass\ through\ weights\ and\ will\ get\ output\ \left(y_{predictions}\right) = b + w * x$

$Step\ -\ 3:\ \ Calculate\ the\ error^2 = \left(y_a - y_p\right)^2$

$Step\ -\ 4: Calculate\ MSE\ or\ Cost\ function\ (J) = \sum_{i=1}^{n} e_i^2 = \sum_{i=1}^{n} \left(y_a - y_p\right)^2$

$Step\ -\ 5: \frac{dj}{dw} = w_d = \ \ 2\ \ \left(y_a - y_p\right)\ \ (-\ x)$

$Step\ -\ 6: learning\ rate\ =\ 0.1$

$Step\ -\ 7:\ \ \ w_{new} = w_{old} - \ \ \alpha * w_d$

$step\ -\ 8: All\ above\ repeated\ 1000\ times\ J \cong 0\ \ \ w_{new} = w_{old}$

EWA NPTEL video

Ch+j+man

5 === 6

$$j\ ===\ \ >\ error\ ===>\ pred\ ===\ \ >\ input\ we\ ===>\ random$$

$$2\ days: Read\ all\ the\ word\ documents\ nptel$$

$$standford\ uni$$

$$9\ am\ to\ 10\ am\ exam:\ \ Descriptive$$

$$10am\ to\ 1pm: Text\ preprocessing$$