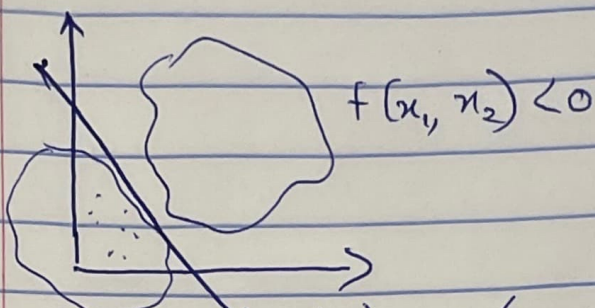


Taken number:-

Lecture - 9

EhdK28



EhdK28

$$f(x_1, x_2) > 0 \quad f(\vec{x}) = f(x_1, x_2) = w_0 + w_1 x_1 + w_2 x_2 = 0$$

$$x_2 = \frac{-w_1 x_1}{2} - \frac{-w_0}{2}$$

$$x_2 = m x_1 + b$$

$$\text{where } m = \frac{-w_1}{2}, \quad b = \frac{-w_0}{2}$$

$$y = \begin{cases} +1 & \text{if } w_0 + w_1 x_1 + w_2 x_2 > 0 \\ -1 & \text{if } w_0 + w_1 x_1 + w_2 x_2 < 0 \end{cases}$$

$$w^T x = [w_0 \ w_1 \ w_2] \begin{bmatrix} x_0 \\ x_1 \\ x_2 \end{bmatrix}$$

Instead of for loops try to use matrix form.

Then we studied Cross Entropy Error Measure:-

$$P[y_1 | x_1] \times \dots \times P[y_N | x_N] = \prod_{n=1}^N P[y_n | x_n]$$

Then we studied about Hill descent

Our goal is to decrease the slope E_{in} by taking derivative at that point you will get the slope.

Move in the opp. direction of the normal to decrease E_{in}

