

Normalization

Normalizing Inputs

Input Columns mai sbh columns ke ranges Bhaut zyaada vary krsktte mtlb bhaut zyaada different scale pr hoskta hai

E.g:

Age & salary

Age tou 10,20, max to max 90,100 rahega whereas

Salary can range from 100, thousands, lakhs, Crores, Billions etc

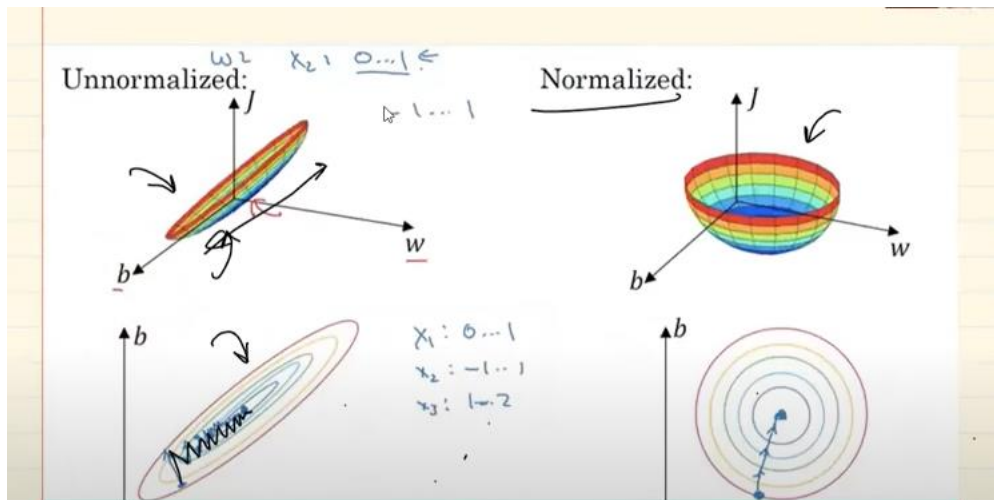
If we are dealing with data like this

Jaha 1 columns mai Data chota hai & 1 column mai data bhaut bada ha

So ish issue ke vajese Neural Network Takes lot of time to Learn,

Weight update karne mai kaafi time lagta hai,

Ishiko Solve karte hai hum by Normalizing Inputs



Feature Scaling

1. Standardized
2. Normalize

Standard

$$\frac{x_i - 14}{\sigma}$$

Normalize

$$\frac{x_i - x_{\min}}{x_{\max} - x_{\min}}$$

Agar column ka Maximum Value & Minimum value pata hai Then Do Normalize

Agr Aapka Column ka maximum & minimum pata hai Example CGPA jo 0 se 10 ke beech rehta hai At that time Standardize karna chaye.

Agar Data Normally Distributed hai yatou Close to Normally Distributed hai then Standardize karna chaye

If data is on same scale, then no need to do that.

Yeah Step karnese Fayda hie hota hai Kbhi Nuksaan type tou dekhte nahi,

Ishe Kindoff Preprocessing Step lelo