

## **Week 11-14**

Previous weeks we discussed Command prompt and Basic Linux operations.

After Mid sem we continued our course with understanding more about networking, protocols, Tcp-ip layers, Servers and Clients connections. We saw how all of these parameters combine and function for sharing of Data via the Internet. We also discussed various layers like Protocol layers( Tcp- ip..) and Physical layers( Cables,satellite, ethernet card, modems....). We had a dedicated quiz for Internet Framework and Components. The extra readings provided us deep insight into the Internet's structure.

In one of the sessions we had a guest speaker - Bhanu Priya, who talked about Artificial neural Networks. During the session we worked with some Basic Logic operation and their further combinations. But soon we got to know that in case of forming Neural logic gates, we need lot more complex set of Logics. We also got to know about activation Functions and there role. Further lecture talked about Training a Network with Train set Data and checking its efficiency using Test set Data. the Lecture was very Fruitful and engaging.

For further sessions we usually Worked on our Final project.

The Summary of my Personal contribution if

## Dynamic Pricing & Fare Algorithms

→ So dynamic??

- ↳ Other industries have usually Static Price Product
- ↳ if the Price goes too dynamic 2 Can leave Customers
- ↳ Airline Industries Just Opposite 2 Dynamic Service Prices
- Ex → Auto mobile Industries

→ Dynamic Pricing Are not So Random, They are based on advance Algorithms of 'Airline Revenue' System.

- ARS → ~~maintains~~ maintains a balance b/w 'filling of Seats' & Making Higher Profits.

→ Core Structure of this Algorithm → Division of Seats into 'Price Buckets',

### Seat's Buckets

- ↳ Ex → 15 Economy class Ticket's

[0 0 0 0 0] → Bucket ① Price

↓

[0 0 0 0 0 0] → B ②

↓

[0 0 0] → B ③

① & with  $\Delta t \downarrow$ , B ③ Vacant's → B ② Vacant's, ...

② How fast Bucket Empty → ~~Ex~~

↳ Empty B ② Rate ↓

↳ Seat Shift's B ① & Vice Versa

③ Further Various 2 Discussed latter

→ This 'Bucket' System keep rate of Prices — Leisure Travelers  
Schedules — Corporate —



# Other Factors that the 'Airline Revenue System' Considers for its algorithm

- ① Dynamic Fuel Cost  $\rightarrow$  leads to Dynamic Flight Cost
- ② Seasonal Trends  $\rightarrow$  Ex  $\rightarrow$  In winter Period  $\rightarrow$  Flight demands  $\rightarrow$  to Go  $\uparrow\uparrow$   
 $\rightarrow$  this gives opportunity to Airlines to  $\uparrow$  Prices
- ③ Flight Route Popularity & Traffic  
 $\rightarrow$  Usually Routes with higher no. of flights are cheaper  
 $\rightarrow$  & If the Flight Demands a higher for Particular Route  $\rightarrow$  Price  $\uparrow\uparrow$
- ④ Weather Forecasting  $\rightarrow$  Sudden change in weather may lead to drastic spike or dip in associated Flight Pricing
- ⑤ Historical Trends & Data  $\rightarrow$  How Performing is Customer Behaviour
- ⑥ Time Before Departure  $\rightarrow$  Broadly  $\rightarrow$  Flight Pricing  $\propto \frac{1}{\text{Time}}$
- ⑦ Special Events  $\rightarrow$  Event's like Concert's of huge gatherings put heavy sudden load on a very Specific Route, this results in  $\uparrow\uparrow$  in Ticket Fare
- ⑧ Competitor's  $\rightarrow$  Fare Should be Relative