Last we covered Decision tree

Entropy and gini are very important

DT models

ID3 : step-1 2 3 gain Entropy

Drawback with id column

C4.5 : Step-4: gain ratio

CART: Gini maths

Naïve Bayes

toss a coin is an event

Event will provide two outcomes

H=Getting a head

T=Getting a tail

Probability of getting head

P(getting head) = P(H)

Probability of getting tail

P(getting tail)= P(T)

Roll a die is an event, 6 outcomes

1 2 3 4 5 6

A and B are two outcomes

Addition Theorem:

probability of A *given* B," notated as P(A|B).

Qns: y: he buys a computer or not

X= {age,income,student,cr}

y:{ he buys a computer or not}

| Id | Age | Income | Student | CR | Y |
| --- | --- | --- | --- | --- | --- |
| 1 | Y | H | N | F | N |
| 2 | Y | H | N | E | N |
| 3 | MA | H | N | F | Y |
| 4 | S | M | N | F | Y |
| 5 | S | L | Y | F | Y |
| 6 | S | L | Y | E | N |
| 7 | MA | L | Y | E | Y |
| 8 | Y | M | N | F | N |
| 9 | Y | L | Y | F | Y |
| 10 | S | M | Y | F | Y |
| 11 | Y | M | Y | E | Y |
| 12 | MA | M | N | E | Y |
| 13 | MA | H | Y | F | Y |
| 14 | S | M | N | E | N |

***X* =(*age =* *youth, income =* *medium, student =* *yes, credit\_rating =* *fair*)**

Yes HE BUYS A COMPUTER

3 qns 1 month

15 ML model python

3 qns =====

8qns ===== 3 qns ==== internship certification

1 week ML with python

5qns ======= assignment to me

DS

1. Linear regression
2. Logistic regression
3. Decision Tree
4. Naïve bayes
5. KNN
6. Bias -variance
7. Coeffiecints
8. Overfit

Metrics

Draw back is there in Naïve bayes

1. What is the assumption
2. What is the Laplacian correction
3. What are the hyperparameter in Naïve bayes

Hyper parameter ==== user can change

To bet get accuracy : hyper parameter tuning

 Is feature scaling required in Naive Bayes?

Scaling the all feature observation under one roof

1. Standardization : -3 to 3
2. Normalization: 0 to 1

Features independent ===== > scaling is required

Probability ===== based on frequency of observations

Value

Salary >10k 1cr 2cr