Q46.What are the testing techniques that you use for model testing, name some of those?

Answer:-

For making the good/Quality of model we need to perform Model Testing some of them are

In machine Learning-

1. Hypothesis testing
2. Cross validation
3. Regularization
4. Accuracy
5. Precision
6. Recall
7. F1 score , F2 score
8. Confusion matrix
9. R2 , adjusted R2

Q47. What do you understand by sensitivity in dataset? Give example.

Sensitivity:- it is the basically a measure of the proportion/percentage of actual positive cases predicted out of total Positive cases (true positive) present . Sensitivity is also termed as Recall.

Recall/Sensitivity=(true positives / all actual positives) or (TP)/(TP+FN)\*100

TP = how many positively predicted out of all actual Positive

FN= how many negatively predict our model but they are Positive In reality.

For eg in hospital 100 patient is present out of them 50 are really pregnent.

|  |  |
| --- | --- |
| TP | FN |
| FP | TN |

For eg ,Our model predict

For this TP = 45

Real

Predicted

FN =5

Answer :- Sensitivity = (45/45+5)\*100 = 90% is our model sensitive .

Q48. Let’s suppose you are trying to solve classification problem; how do you decide which algorithm to use?

So for Choosing any of classification model you need think for some important points like,

1. What is the Size of the training data. It is usually recommended to gather a good amount of data to get reliable

2.predictions Results

3.Accuracy of the output. ...

4.Speed or Training time.

5.Checking is Data is having Linearity or Non linearity.

6.Number of features.

You need to try with all necessary algorithm which can full fill these points.

For eg. If you need to perform some Regression Problem over your data

You need look for the dataset is linear or not if linear then you can use Linear Regression over it and if not then you can use Random Forest algorithm which is the Robust algo. It will learn the non linear relationship between data and similarly you need to look for model which can withstand your Requirements.

Q49. Can we use Logistic regression for classification if my no. of classes are 5?

Answer:- Yes we can use but Logistic Regression is a simple but very effective classification algorithm so it is commonly used for many binary classification tasks. Logistic regression model takes a linear equation as input and use logistic function and log odds to perform a binary classification task but you want to perform Multi class Classification(class=5) then you can use One Vs Rest logistic Regression method which will Divide the whole dataset in Two part one for single class and another it will consider rest as a one class and in the same way it will do classification. For multi class classification there are lots of algorithm are the Robust.

Q50. Let’s suppose there is company like OLA or UBER who provides service to many customers, then how will they make sure that car availability in particular region and what kind of dataset is required?

Ans:- So first of all They are using google maps api for getting the exact co-ordinates of peoples

And also the exact co-ordinate of the cab so that after getting the request for booking cab there are finding the less displacement between the cab and people by using the hamming distance formula so that they can provide the quick booking, and after reaching the destination of people the cab got vacant an d the same way they are trying to compare the distance between people and cab and based on this they are doing this things.

Q51. AI Solution for architecture -- Let’s suppose there is agricultural field in diff areas in India, and we know soil & weather condition is different over India, So I am trying to build system which helps me understanding what kind of treatments I will be able to apply on my crops, which crop I can grow in particular month so I can be able to maximize the benefit form the soil. Then what kind of algorithm you will use whether its ML,DL, Vision? What will be your approach and what kind of solution design you will provide?

Ans:- We can use Machine learning then this process will perform good ,first Question is to Classify the of Different region of india ,based on soil types , and after that you need to predict the weather for that specific regions of india and also you need to classify the crops for based on soil and based on time and based on weather and after you can use any Classification algorithm which will try to learn from the data model and if you enter the input data then it will be able to classify that which crop you should farm.

And if you want to use deep learning then you need to use some ANN which is very good capable to learn the non linear relationship between the feature so that it can give you the best prediction