Some Interview Questions Attempt by : Apoorv Khare

What are the assumptions while dealing with Linear Regression technique?

Ans:

- linear regression needs the relationship between the independent and dependent variables to be linear. We can check this by plotting a scatter plot between the variables.
- Little or no Multicollinearity between the features of the dataset. We can check this by plotting a heatmap.
- We use linear regression when we have continuous data

Why use Linear Regression when we have KNN technique as well?

Ans: KNN is slow in real time as it has to keep track of all training data and find the neighbour nodes, whereas Linear Regression can easily extract output from the tuned θ coefficients.

How will you convince your client that your Linear Regression model is good?

Ans: By Computing the R squared value if the value the high that the model is good however this is not the absolute deciding factor for Linear Regression.

Mention time and space complexity of Linear Regression?

Ans: Calling n the number of observations and p the number of weights, the overall complexity should be n_2p+p_3. Indeed, when performing a linear regression, you are doing matrices multiplication whose complexity is n_2p (when evaluating $X'X$) and inverting the resulting matrix. It is now a square matrix with p rows, the complexity for matrix inversion usually is p_3 (though it can be lowered).

Hence a theoretical complexity: n_2p+p_3. **Not sure about the answer just researched on net.**

Which metric you used to evaluate Linear Regression?

Ans : Root Mean Squared value or RMS

What if data is not linearly separable, what will be your approach?

Ans : We can Polynomial Regression to address this issue.

Which assumption is most important while dealing with Linear Regression?

Ans : There should be no autocorrelation in the data .

What if all data points lie on predicted line? Is this model good or bad?

Ans : the model is bad as it will to overfitting of data i.e the model will have high variance.

A} What is the type of independent variable(continuous/categorical) and dependent variable(continuous/categorical) in Linear regression?

B} If your input independent data is categorical and output dependent data is continuous. How will you deal this?

Ans: A} I think its binary type

B} Researched on Net: We can use ANOVA or Analysis of Variance .