1. What are the different types of linear regression?

Ans:

Linear Regression

Logistic Regression

Ridge Regression

Lasso Regression

Polynomial Regression

Poisson Regression

Stepwise Regression

1. What are the assumptions of linear regression? How to verify them?

Ans:

Linear Relationship

No multicollinearity

No auto correlation

Homoscedasticity

Multivariate Normality

1. How does linear regression determine best coefficient values ?

The model which has least sum of square errors has the coefficient values.

1. What is R-square, formula and definition

R \*\*\*2 = variance explained by the model/Total variance

1. SSR/SST
2. What are the problems arise if the distribution of the new test data is significantly differently than the distributuin of train data ?

Selection bias

Population drift

Non stationary environment

1. What are bias and variance
2. How does decision work ? How does it split the node of the decision tree.
3. What is error metric? Explain the confusion matrix ? Type 1 and Type 2 errors
4. What is the difference bagging and boosting?
5. What are different types of sampling methods you have used?

Bernoulli

Cluster

Systematic

Random

Stratified

1. What is cross validation ? n-fold cross validation ?
2. What is cross entropy?
3. What is multicollinearity ? How do you fix it ?

1. Relationship between sample size and margin of error ?