Daily Machine Learning Interview Questions

46. What is Dimensionality Reduction?

In the real world, Machine Learning models are built on top of features and parameters. These features can be multidimensional and large in number. Sometimes, the features may be irrelevant and it becomes a difficult task to visualize them.

This is where dimensionality reduction is used to cut down irrelevant and redundant features with the help of principal variables. These principal variables conserve the features, and are a subgroup, of the parent variables

47. What is meant by Parametric and Non-parametric Models?

Parametric models refer to the models having a limited number of parameters. In case of parametric models, only the parameter of a model is needed to be known to make predictions regarding the new data.

Non-parametric models do not have any restrictions on the number of parameters, which makes new data predictions more flexible. In case of non-parametric models, the knowledge of model parameters and the state of the data needs to be known to make predictions.

48. Differentiate between Sigmoid and Softmax Functions

Sigmoid and Softmax functions differ based on their usage in Machine Learning task classification. Sigmoid function is used in the case of binary classification, while Softmax function is used in case of multi-classification.

49. In Machine Learning, for how many classes can Logistic Regression be used?

Logistic regression cannot be used for more than two classes. Logistic regression is, by default, a binary classifier.

However, in cases where multi-class classification problems need to be solved, the default number of classes can be extended, i.e., multinomial logistic regression.

50. What is meant by Correlation and Covariance?

Correlation is a mathematical concept used in statistics and probability theory to measure, estimate, and compare data samples taken from different populations. In simpler terms, correlation helps in establishing a quantitative relationship between two variables.

Covariance is also a mathematical concept; it is a simpler way to arrive at a correlation between two variables. Covariance basically helps in determining what change or affect does one variable has on another.

Thank You