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Exe 01

Que1 = In your own words, list two problems that regression algorithms can be used to solve and why, based on their characteristics.

Ans1 =

1. A predictor variable and a dependent variable are included in a regression, one of the most fundamental forms of regression in machine learning. A best fit line is used in linear regression, as previously mentioned. When your variables are linearly connected, you should apply linear regression.

For instance, if you are predicting how more advertising spending will affect sales. However, because this methodology is prone to outliers, massive data sets shouldn't be analyzed using it.

1. Regression analysis may be used to foresee future interactions between a dependent variable and one or more independent variables. It may be used to foretell,

for instance, the connection between erratic driving and the overall number of accidents on the road that a driver causes, or, to take a commercial example, the impact on sales and spending a given amount on advertising.

Que2= In your own words, List two problems that belong to classification problem and why, based on their characteristics.

Ans2=

1. Based on their purchasing habits and online shop browsing habits, among other factors, customers can be divided into many categories.

For instance, categorization models may be used to assess a customer's propensity to make more purchases. You may wish to give them special offers and discounts if the categorization model indicates there is a higher possibility that they will soon make further purchases. Or perhaps preserve them for later by making their information easily accessible if it has been discovered that they will likely abandon their purchase habits shortly.

1. To categories documents into several groups, a multinomial classification model can be developed. The categorization model in this instance may be viewed as a mapping from a document to a category label. Different techniques, including the Naive Bayes classifier, Support Vector Machines (SVM), and neural network models, can be used to categories documents. On various document classification datasets, deep learning techniques including Deep Boltzmann Machines (DBMs), Deep Belief Networks (DBNs), and Stacked Autoencoders (SAEs) produce cutting-edge classification results.

Que3 = In your own words, List two problems that can be solved by using clustering algorithm(s) and why, based on their characteristics.

Ans2 =

1. The algorithm analyses the words used in the corpus, which contains the substance of the false news story, before grouping them. These clusters are what enable the system to distinguish between authentic news sources and false news sources. There are several terms that are more frequently used in sensationalized, click-bait stories. An article's likelihood of being false news Increases when it contains a large number of particular phrases.
2. Algorithms that use clustering can put persons with similar features and propensity to buy together. When you have your groups, you may conduct testing on each group using various marketing copy to assist you better target your future messaging to them.

Que4 = In your own words, what is anomaly detection?

Ans4 = Finding unusual occurrences, objects, or observations that are suspicious because they diverge dramatically from expected patterns or behaviors is known as anomaly detection. Standard deviations, outliers, noise, novelty, and exceptions are other names for data anomalies.

Que5 - app example to illustrate what the ML.NET pipeline is

Ans5 = Microsoft introduced the preview of ML.NET (Machine Learning .NET) which is a cross-platform, open-source Machine Learning Framework. Yes, now it is easy to develop our own Machine Learning application or develop custom modules using Machine Learning Framework. ML.NET is a Machine Learning framework that was mainly developed for .NET developers. We can use C# or F# to develop ML.NET applications. ML.NET is open source and cross-platform and can run on Windows, Linux, and macOS. ML.NET is still in development and now we can use the preview version to work and play with ML.NET.