

Machine learning

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13. Clustering is the process of grouping observations of similar kinds into smaller groups within the larger population. It has a widespread application in business analytics. One of the questions facing businesses is how to organize the huge amounts of available data into meaningful structures. Or break a large heterogeneous population into smaller homogeneous groups. Cluster analysis is an exploratory data analysis tool which aims at sorting different objects into groups in a way that the degree of association between two objects is maximal if they belong to the same group and minimal otherwise.

For example, A grocer retailer used clustering to segment its 1.3MM loyalty card customers into 5 different groups based on their buying behaviour. It then adopted customized marketing strategies for each of these segments in order to target them more effectively.

The hierarchical cluster analysis follows three basic steps: 1) calculate the distances, 2) link the clusters, and 3) choose a solution by selecting the right number of clusters.

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15. It is the process to find similar groups of objects in order to form clusters.

For Eg. For Myntra, buying pattern of same age group like their favourite brands etc.

Types of Cluster analysis

1. Centroid-based-
2. Density-based-
3. Distribution-based-
4. Hierarchical-
5. Fuzzy clustering-