What is Machine Learning(ML)?

Machine learning is the ability of the machine to understand given data and create relations and identify patterns in the data in order to predict the outcome or output is called Machine Learning. The machine is not coded to predict it is trained to understand the data and derive the prediction by identifying the relation between the data and the desired output.

Eg:

|  |  |
| --- | --- |
| X1 | Y1 |
| 1 | 10 |
| 2 | 20 |
| 3 | ? |

Here the machine predicts the value of Y1 when X1 is 3 as 30 since the relation between X1 and Y1 is that Y1=10 \* X1. Hence using machine learning we are able to predict the outcome, probability of the desired outcome, etc.

What is supervised ML algorithm?

Supervised ML uses labelled data to predict the outcome. Labelled data are those data where the input columns are mapped to output column.

Eg: Continuous data(input columns-X1,X2,X3 output column-Salary)

|  |  |  |  |
| --- | --- | --- | --- |
| X1 | X2 | X3 | Salary |
| - | - | - | ₹15000 |
| - | - | - | ₹25000 |
| - | - | - | ₹35000 |

Eg: Categorical data(input columns-X1,X2,X3 output column-Play)

|  |  |  |  |
| --- | --- | --- | --- |
| X1 | X2 | X3 | Play |
| - | - | - | Yes |
| - | - | - | Yes |
| - | - | - | No |

What is Regression and Classification?

Regression algorithms are used to solve those problems when the input data results in a liner graph i.e., have a linear function defining the relation between the input and the output. Regression algorithm is used to solve continuous data problems. It predicts continuous values. Classification algorithms solve problems where the data has been assigned a specific categories or classes. It predicts which category or class a specified data belongs to. Classification algorithm is used to solve categorical data problems.