

Day :3

Introduction to Supervised Learning

- It is a learning model, where it learns from labelled data, meaning each input(x) have desired output
- Types of supervised learning
 1. Regression
 2. Classification

1. Regression :-

- Supervised learning model used to predict a continuous value from input data

$$y = f(x)$$

where

y = numeric output

x = input feature

f = model that learns the relationship

How regression works ?

- model predicts a value
- compare with actual value
- calculate error
- adjust model to reduce error
- repeat

Ex:-

1. House price prediction
2. Salary prediction

Regression algorithm's

- Linear regression
- Logistic
- ~~Polynomial regression~~
- Ridge & Lasso regression
- Decision tree
- Random forest
- Neural network regression

2. Classification

- Supervised learning model used for binary classification, meaning it is used to predict a category or class

Ex:-

- 0 | 1
- spam | not spam

- Input (x) \rightarrow class label (y)

algorithms

- logistic regression
- Decision tree classifier
- Random forest
- Support Vector machine
- K-Nearest Neighbour