Linear Regression

Abstract: Linear Regression is a fundamental supervised machine learning algorithm used for predicting a continuous outcome variable (also called the dependent variable) based on one or more predictor variables (independent variables). It assumes a linear relationship between the predictor variables and the target variable.

The basic idea behind Linear Regression is to find the best-fitting line through the data points that minimizes the sum of the squared differences between the predicted and actual values. This line is often referred to as the "regression line" or "line of best fit."