Aastha Shreya

Machine Learning

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Statistical Linear Regression

It is a statistical measure that attempts to determine the strength of the relationship between one independent variable and a series of several changing variables(also known as independent variable).

In other words Regression is a mathematical technique used to estimate the cause and effect relationship among variables.

Mathematical Representation:

$Y = mX + b$

Application Of Linear Regression:

1. Which consumer is likely to default.
2. Which promotion is more effective?
3. What is the risk associated with a consumer?
4. What percentage of loans are likely to result in a loss?
5. How to identify the most profitable customer?

In this example medical insurance data has been used to calculate the RMSE.

RMSE: Root Mean Square Error (RMSE) is the standard deviation of the residuals (prediction errors).

Residuals are a measure of how far from the regression line data points are; RMSE is a measure of how spread out these residuals are. In other words, it tells you how concentrated the data is around the line of best fit.