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Linear Regression

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Intuition:

Q.

Experience in Years	0	2	4	5	6
Salary	2,00,000	4,00,000	8,00,000	10,00,000	12,00,000

What would be the **salary** of a person with **3 years of Experience?**
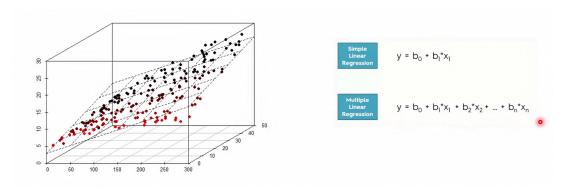
~ ₹ 650000 per Year

Years of Experience vs. Salary

Multiple Linear Regression:

It is a model for predicting the value of one dependent variable based on two or more independent variables.

Simple Linear Regression

$$y = b_0 + b_1 * x_1$$

Multiple Linear Regression

$$y = b_0 + b_1 * x_1 + b_2 * x_2 + \dots + b_n * x_n$$

Advantages of LR:

1. Very simple implement

2. Performs well on data with linear relationship

Disadvantages of LR:

1. Not suitable for data having non-linear relationship

2. Underfitting issues

3. Sensitive to Outliers.

Mathematical Understanding:

Loss function, Slope and Intercept