

Ai

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1 Linear Regression

$$m = \text{slope} \tag{1}$$

$$x = \text{all the } x\text{'s} \tag{2}$$

$$y = \text{all the } y\text{'s} \tag{3}$$

$$m = \frac{\bar{x} * \bar{y} - \overline{xy}}{(\bar{x})^2 - \overline{x^2}} \tag{4}$$

$$b = \bar{y} - m\bar{x} \tag{5}$$

$$y = mx + b \tag{6}$$

This works for two-dimensional data. As you increase your dimensions in vector space, this can get much more complex.