

MACHINE LEARNING

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Why Multiple Linear Regression

So far, we have seen the concept of simple linear regression where a single Independent variable X was used to model the Dependent variable Y .

But in many applications, there is more than one factor that influences the response.

e.g.,

Price of a house depends on multiple factors:

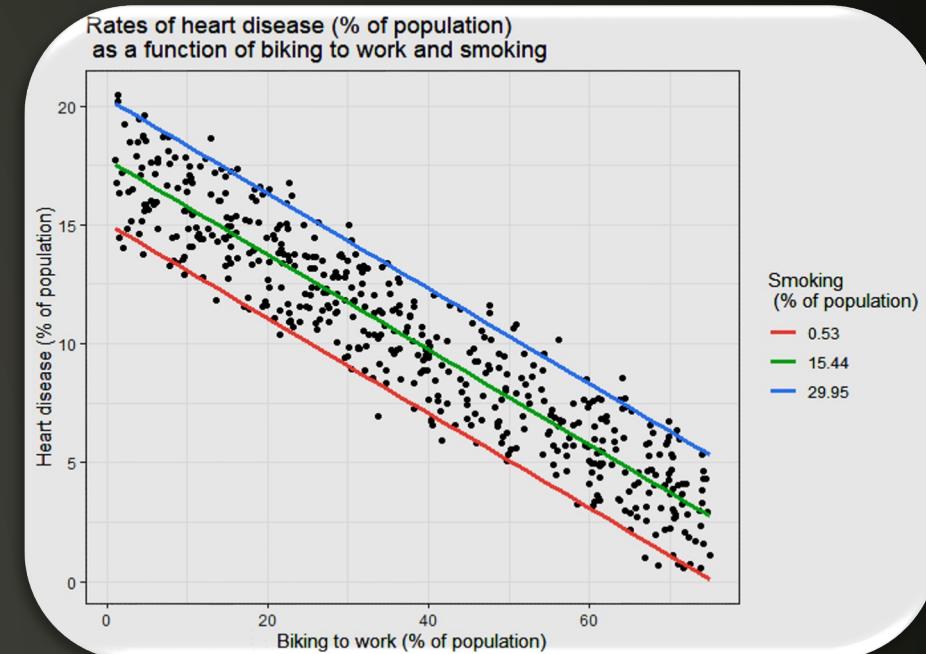
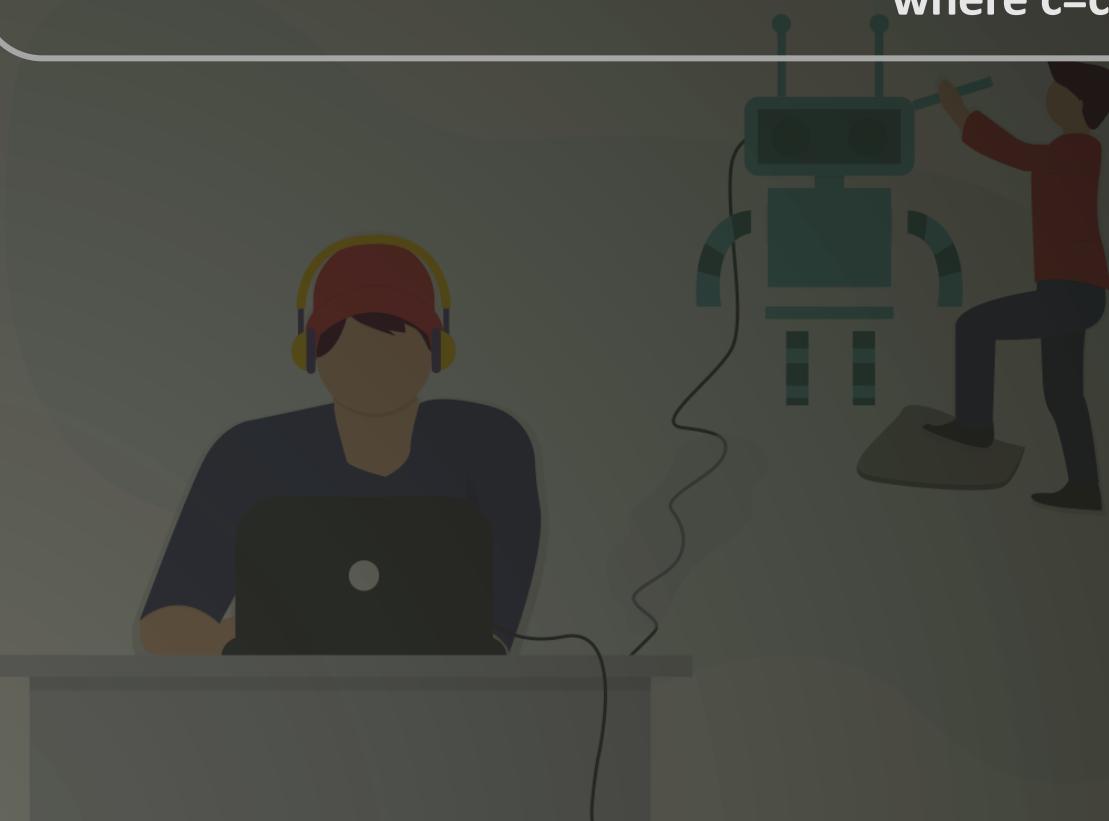
1. Location
2. Age
3. no.of rooms ..,etc

What is Multiple Linear Regression

Multiple regression model describe how a single Dependent variable Y depends linearly on a number of Independent variables X. It try to fit the model with multiple Independent Variables.

$$y = m_1x_1 + m_2x_2 + \dots + m_nx_n + c$$

$$\text{where } c=c_1+c_2+\dots+c_n$$



Multiple Linear Regression

Advantage

1. The ability to determine the relative influence of two or more Independent variables(X) to the Dependent variables(Y).

Dis-Advantage

1. It'll fit the data with linear relation even if the data is not linearly distributed.

Multiple Linear Regression Model

1 from sklearn.linear_model import LinearRegression

2 regressor=LinearRegression()

3 regressor.fit(X_train,y_train)

4 y_pred=regressor.predict(X_test)