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Recap: * Multiple linear Regression

* Maths and Theory of Logistic Regression

Agenda:

→ Implementation of Log. Regression

→ Correlation

→ Standard Scaler

Linear Regression

→ Output column Continuous

Logistic Regression

⇒ Classification → output column Categorical

value

Feature Scaling

* We use this technique to scale our data in same range.

Shift A (easy)

Max. Marks = 300

Max. Marks Achieved = 280

Min Marks Achieved = 80

Your Marks (Victoria) = 150.

effective =>

$$X_a = \frac{X - X_{min}}{X_{max} - X_{min}}$$

$$\text{Marks}_{\text{Victoria}} = \frac{150 - 80}{280 - 80} = \frac{70}{200} = 0.35$$

Shift B

Max. Marks (= 300) (difficult)

Max. Marks Achieved = 250

Min. Marks = 50

Sibi (your marks) = 150

effective =

$$\text{Marks}_{\text{Sibi}} = \frac{150 - 50}{250 - 50} = \frac{100}{200} = 0.5$$

=> Marks Sibi > Marks Victor (0.35)

(0.5)

$\Rightarrow$

Actual Marks of Victor $= 0.35 * 300$

$= 105$

Actual Marks Sibi $= 0.5 * 300$

$= 150$

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Feature Scaling

→ (Standard Scaler) ⇒ Normalise your data in same Range

Correlation :

dataset.corr()

① -ve Correlation

Speed ↑ Time ↓ ⇒

range = [-1, 0]

ex - 0.85 ⇒ highly -vely correlated

② +ve Correlation :

Distance ↑ Time ↑

range [0 - 1]

ex 0.85 ⇒ highly +vely correlated

③ 0 Correlation (No Correlation)

quantity ↑ quantity ↓ X

Range [-1, +1]

Case:1 [-1, 0] → -ve correlation

Case:2 [0, +1] → +ve correlation

Case:3 ⇒ 0 ⇒ No correlation

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steps :- (i) load the Standard Scaler

(ii) Creat model of StanScaler

(iii) apply fit() on X_train → learning the pattern

(iv) transform() → X_train & X_test

X_train_sc X_test_sc

https://www.javatpoint.com/standardscaler-in-sklearn