

$$R^2 = 1 - \frac{\frac{1}{n} \sum (y - \hat{y})^2}{\frac{1}{n} \sum (y - \bar{y})^2}$$

y = Actual label
 \hat{y} = prediction
 \bar{y} = mean of y

Logistic Regression

- Classification problem - two class classification
- A linear model, it can give better performance, only if features have good correlation with target attribute

Sigmoid
 $f(x) = \frac{1}{1 + e^{-x}}$ } for any value of x
 $f(x)$ will be always b/w 0 to 1

$$\hat{y} = mx + c$$

$\frac{1}{1 + e^{-\hat{y}}} = p$ = probability of observation to be in class 1.

If $p \geq 0.5 \Rightarrow$ class 1

If $p < 0.5 \Rightarrow$ class 0

