Adjusted R_squared

What is the Adjusted R-squared?

The adjusted R-squared shows whether adding additional predictors improve a regression model or not. This is an evaluation metric for linear regression.

Problems with the R-squared

R-squared comes with an inherent problem – additional input variables will make the R-squared stay the same or increase (this is due to how the R-squared is calculated mathematically). Therefore, even if the additional input variables show no relationship with the output variables, the R-squared will increase.

Understanding adjusted R-squared

the adjusted R-squared looks at whether additional input variables are contributing to the model

Example

	Model 1	Model 2
Variables used	X1,X2,X3,Y1	X1,X2,Y1
R-squared	0.7624	0.7534
Adjusted R-squared	0.7236	0.5635

adj R_sqrd =1- (1-R^2)(n-1) / n-p-1

R^2 = R_squatred

n= number of rows

p = number of variables