DATE / /
PAGE

* Evaluation of linear regression :
  - Mean square error (MSE)
  - Coff coefficient of determination (R^2) (good one)
    - $R^2 = 1 - \frac{\text{Residual Sum of Square (RSS)}}{\text{Total sum of square (TSS)}}$

i.e.

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

y_i = actual output/target
$\hat{y}_i$ = predicted output (+)
$\bar{y}_i$ = mean of actual target

Case 1: Best LR model → RSS = 0

$$R^2 = 1 - \frac{0}{TSS} = 1$$

Case 2: Average LR model → RSS = TSS

$$R^2 = 1 - \frac{TSS}{TSS} = 1 - 1 = 0$$

Case 3: worst LR model → RSS > TSS

R^2 = (-)ve

R^2 tries to capture explained variance by our

It is not good