

$$Cook'sDistance_i = \frac{r_i^2}{p \cdot MSE} \cdot \frac{h_i}{(1-h_i)^2}$$

$$r_i = y_i - \hat{y}_i$$

$$MSE = \frac{1}{n} \cdot \sum_{i=1}^n r_i^2$$

p = number of predictors in the model

h_i = leverage of the i-th observation

$$h_i = \frac{1}{n} + (X_i - \bar{X})(X'X)^{-1}(X_i - \bar{X})'$$