mean squared error (MSE)
An absolute measure for the accurary of an *estimator*, where smaller values indicate a tighter fit of the *model* generating the estimate to the observed data (→ *observation*). The MSE is computed as follows:

$$MSE = E[(\hat{Y} - Y)^2] = \frac{1}{n}\sum_{i=1}^{n}(\hat{Y}_i - Y_i)^2$$

where each $\hat{Y}_i$ is an estimate and each Y_i is the corresponding observed *data point*. It can be shown that the MSE is composed of the *bias* and the *variance* of the model generating $\hat{Y}$:

$$\begin{aligned} MSE = E[(\hat{Y} - Y)^2] &= (E[\hat{Y}] - Y)^2 + E[(\hat{Y} - E[\hat{Y}])^2] \\ &= bias(\hat{Y}, Y)^2 + var(\hat{Y}) \end{aligned}$$