$$MSE = E[(y - \hat{f}(x))^2]$$

$$MSE = E[(f(x) + \epsilon - \hat{f}(x))^2]$$

$$MSE = \sigma^2 + Var(f(x) - \hat{f}(x)) + E[f(x) - \hat{f}(x)]^2$$

MSE (Prediction error) = Variance + Bias^2 + Variance of Irreducible noise