Suppose \( \bar{X} = (x_1, x_2, \ldots, x_n) \) has iid \( N(\mu, 1) \) components \( x_i \). The statistic \( T(\bar{X}) = \bar{X} \) has
\[ E(\bar{X}) = E(\mu) \bar{X} = \mu \]
and is thus unbiased for \( \mu \). The Cramér–Rao lower bound on the variance of an unbiased estimator of \( \mu \) is
\[ \text{Var}_{\mu} \bar{X}(\bar{X}) = \frac{1}{n} \frac{1}{\text{I}_{\bar{X}}(\mu)} = \frac{1}{n(1)} = \frac{1}{n} \]
But \( \bar{X} \) has \( \text{Var}_{\mu} \bar{X} = \frac{1}{n} \text{Var} x_1 = \frac{1}{n} \) and thus "achieves the C–R lower bound" (for every \( \mu \)). So among all unbiased estimators of \( \mu \), \( \bar{X} \) is best (it has "uniformly minimum variance").