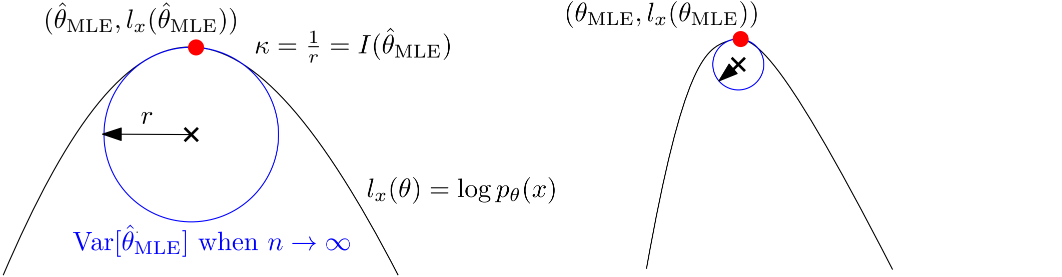

Fisher information small:
Likelihood curvature is small (flat peak)
Variance is large, low accuracy

Fisher information large:
Likelihood curvature is large (sharp peak)
Variance is small, good accuracy

Taylor 2nd-order with $l'(\hat{\theta}_{\mathrm{MLE}}) = 0$: $l_x(\theta) \approx l_x(\hat{\theta}_{\mathrm{MLE}}) + \frac{1}{2}(\theta - \hat{\theta}_{\mathrm{MLE}})^2 l''(\hat{\theta}_{\mathrm{MLE}})$

$$-l''(\hat{\theta}_{\mathrm{MLE}}) = -E_{\hat{\theta}_{\mathrm{MLE}}}[l''(\theta)] = I(\hat{\theta}_{\mathrm{MLE}}) \Rightarrow l_x(\theta) \approx l_x(\hat{\theta}_{\mathrm{MLE}}) - \frac{1}{2}(\theta - \hat{\theta}_{\mathrm{MLE}})^2 I(\hat{\theta}_{\mathrm{MLE}})$$