

$$\mathbb{E}_{\mathbf{x}_i, y_i \sim D} \left[\left(\mathbb{E}_{\mathbf{x}, y \sim D} \left[\frac{d\ell(f(\mathbf{x}, \theta), y)}{d\theta} \right] \right)^2 \right] - \left(\frac{d\ell(\theta)}{d\theta} \right)^2$$