The optimal $\lambda$

![Graph showing the relationship between Expected $E_{\text{out}}$ and Regularization Parameter $\lambda$ with different values of $\sigma^2$ and $Q_f$.](image)

**Stochastic noise**

- $\sigma^2 = 0.5$
- $\sigma^2 = 0.25$
- $\sigma^2 = 0$

**Deterministic noise**

- $Q_f = 100$
- $Q_f = 30$
- $Q_f = 15$