Outline

- What is overfitting?

- The role of noise

- Deterministic noise
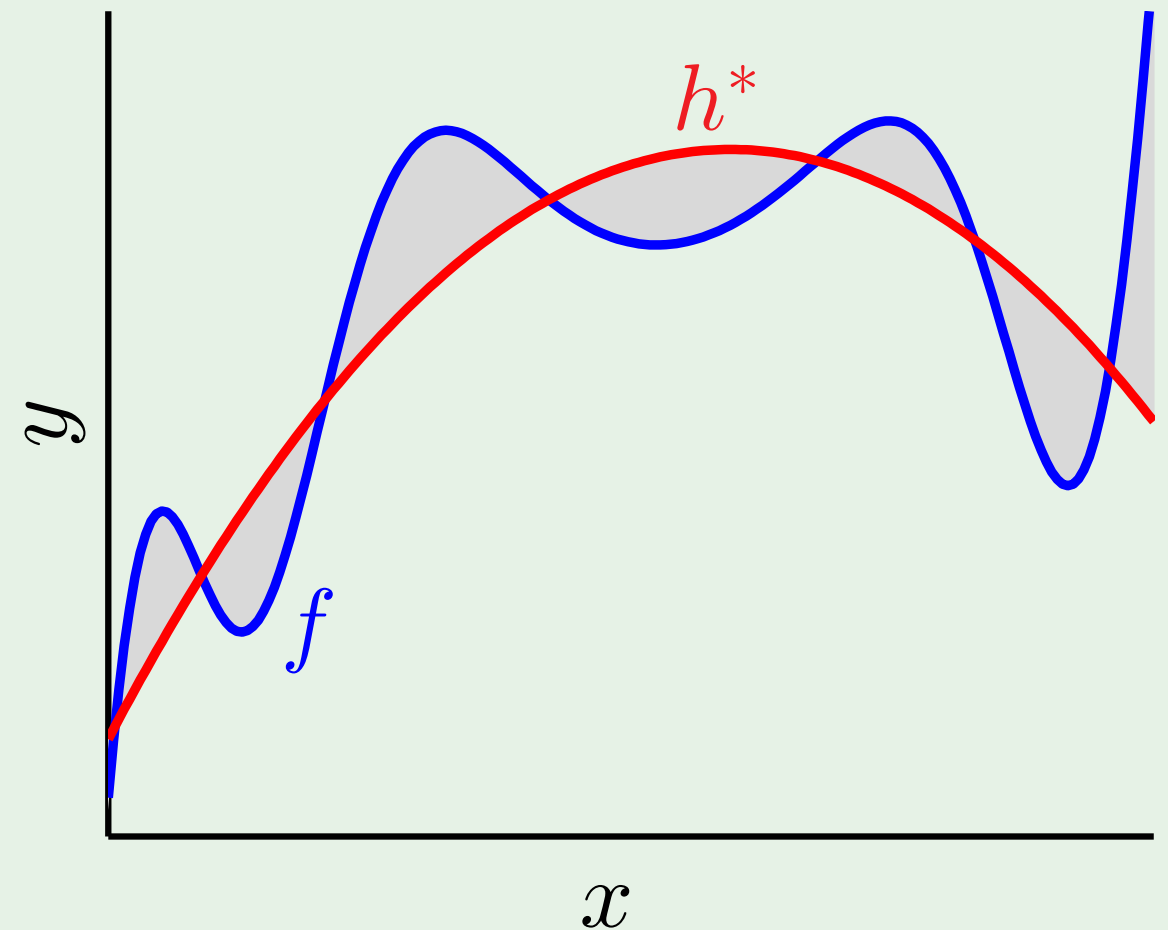
- Dealing with overfitting

Definition of deterministic noise

The part of f that $\mathcal{H}$ cannot capture: $f(\mathbf{x}) - h^*(\mathbf{x})$

Why "noise"?
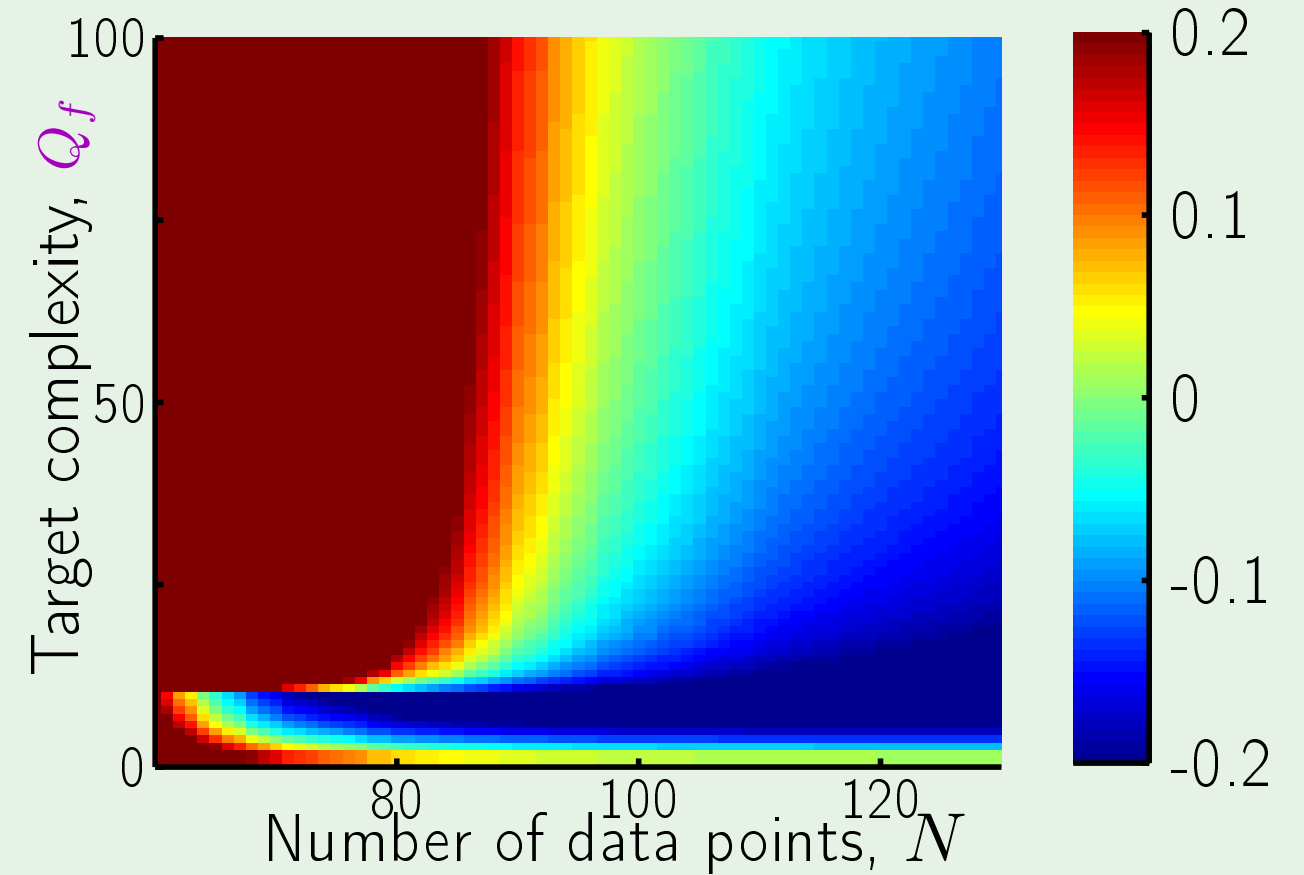
Main differences with stochastic noise:

    1. depends on $\mathcal{H}$

    2. fixed for a given $\mathbf{x}$

Impact on overfitting

Deterministic noise and Q_f

Finite N: $\mathcal{H}$ tries to fit the noise

how much overfit