

Two approaches to regularization

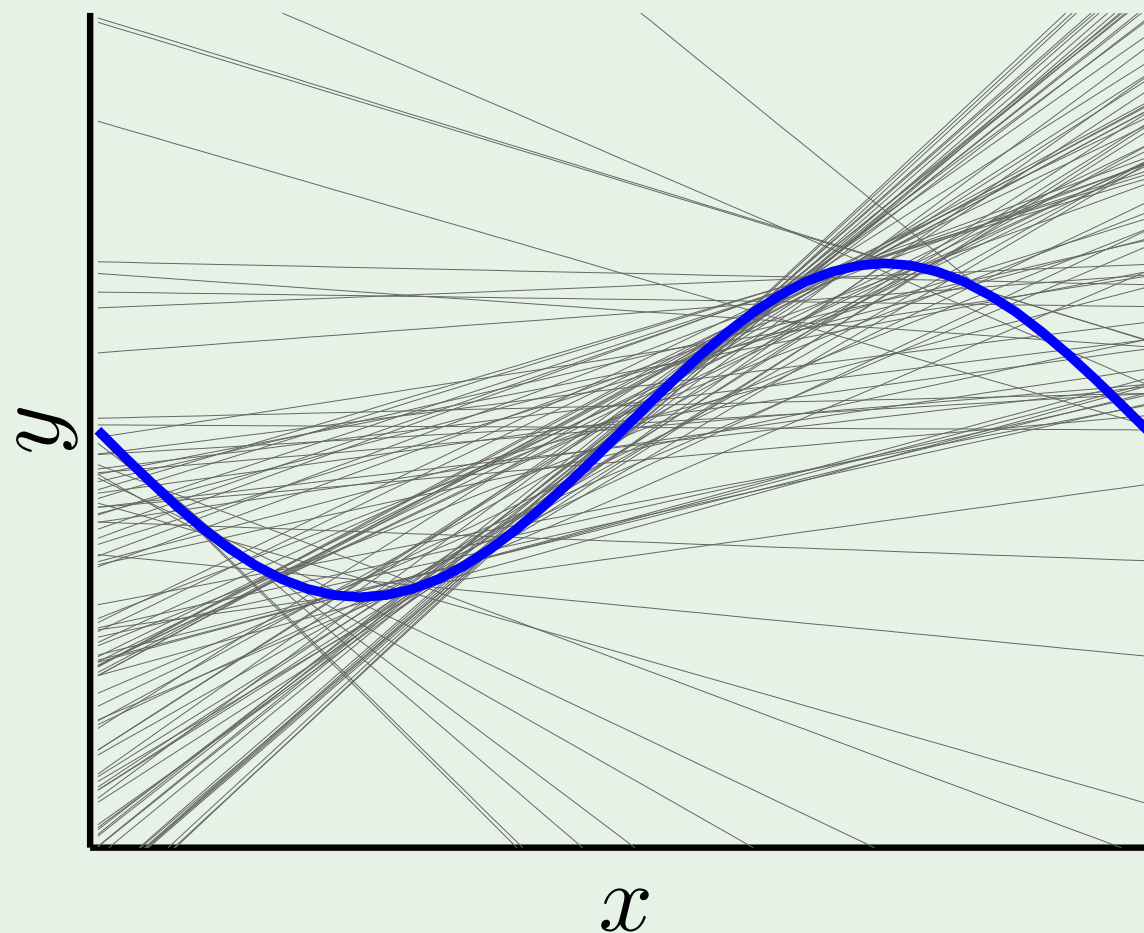
Mathematical:

Ill-posed problems in function approximation

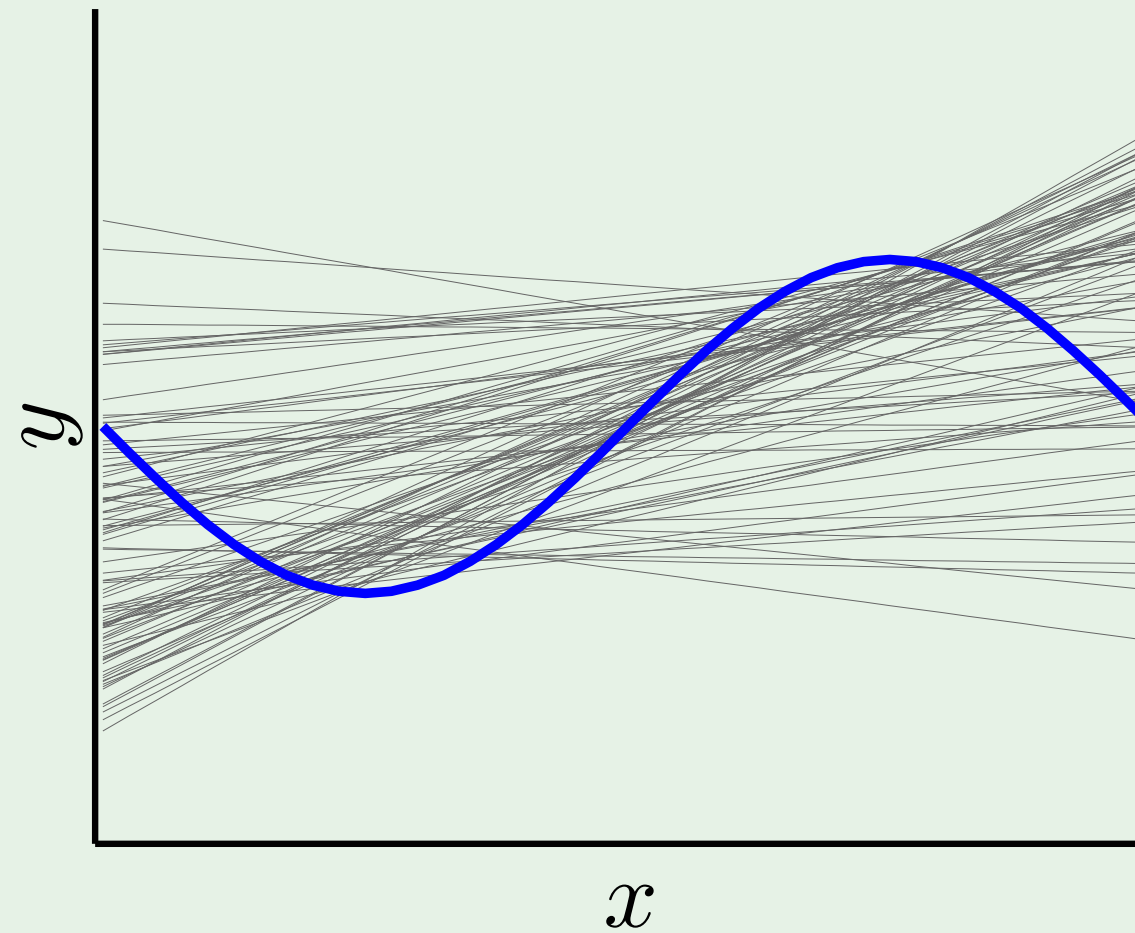
Heuristic:

Handicapping the minimization of E_{in}

A familiar example



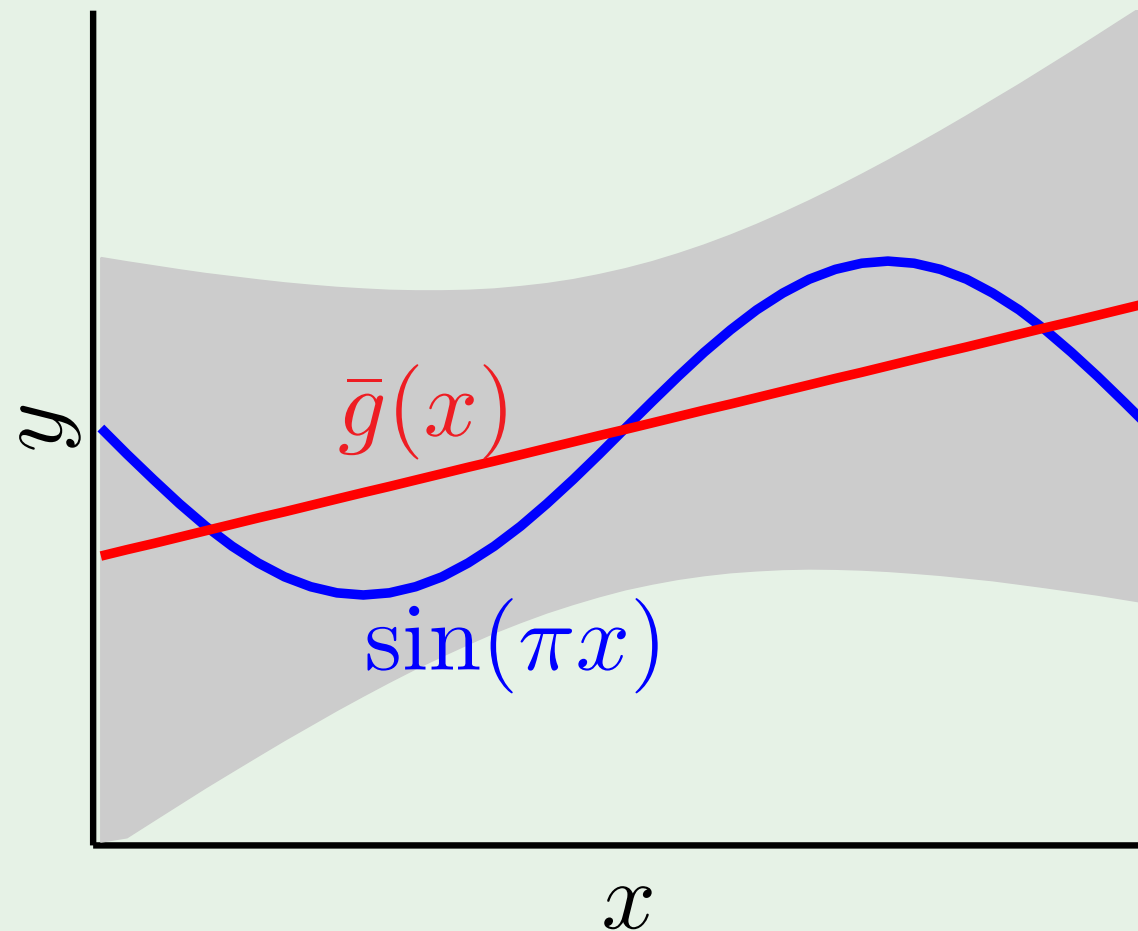
without regularization



with regularization

and the winner is ...

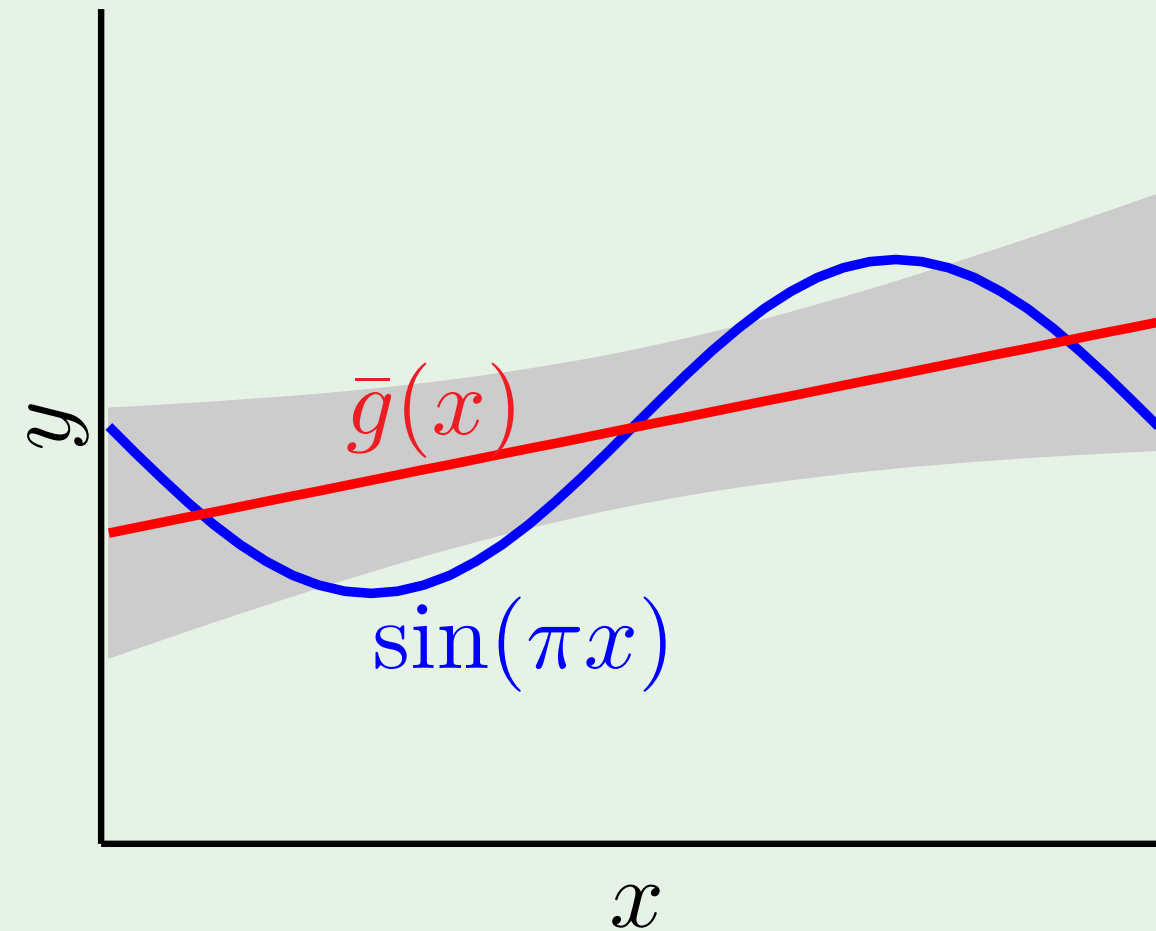
without regularization



bias = **0.21**

var = **1.69**

with regularization



bias = **0.23**

var = **0.33**