Machine Learning Exercises (chapter 5)

5.2_ a) pros and cons: (Algorithm A)

Pros: It has small ε_{est}, because of less complexity (less prone to overfitting)

This Algorithm can easily interpret models in a plot (dim: 2d)

Cons: Inductive bias might be too large (high ε_{app}) and we can't use A, P, I in our model

(Algorithm B)

Pros: Smaller inductive bias, reducing risk of underfitting.

B has

It has small ε_{app}.

Cons: It has larger ε_{est}. because of that our model (complex) may lead to overfitting

2_b) Increasing size of S (traing data set) leads to $L_S(h_S)$ is a better estimate of $L_p(h_S)$. It means lower ε_{est}, because of that B is better than A.

ε_{app} can be reduced by choosing Algorithm B (complexity)

ε_{est} can be decreased with the size of S.