

## Learning Conclusion: Cross-Validation

## Bayes Nets Intro: Representing and Reasoning about Uncertainty

## Final Considerations: Avoiding Overfitting

- We have a choice of different techniques:
- Decision trees, Neural Networks, Nearest Neighbors, Bayes Classifier,...
- For each we have different levels of complexity:
  - Depth of trees
  - Number of layers and hidden units
  - Number of neighbors in K-NN
  - .....
- How to choose the right one?
- Overfitting: A complex enough model (e.g., enough units in a neural network, large enough trees,..) will *always* be able to fit the training data well



