Chapter 9: Additive models, trees and related methods

Chapter 9.1-9.2 WORD LIST

Main content of this section:

- Generalized additive models
- Backfitting algorithm
- CART, regression tree, classification tree
- Pruning, cost-complexity pruning, weakest link pruning
- Node impurity and its measures

Other concepts mentioned in this section

- Concepts related to “smooth” (?)
  * smooth function: has derivatives of all orders everywhere in its domain.
  * smoothing: to smooth a data set is to create a model (a function) that tries to capture the pattern of the data and at the same time rule out the noises. So, in smoothing, the data points are modified, to make a smoother signal. Smoothing usually includes a tuning parameter to control the extent of smoothing. It is different from “curving fitting”, which is mainly about matching, hence any parameters of the function can be adjusted in order to get a better fit.
  * smooth operator
  * smoother
- Concepts related to “spline” (piecewise polynomial)
  * cubic spline
- Concepts related to “penalized” (occurred due to simple RSS is not good when X columns are correlated or when there are too many predictors)
  * penalized RSS
  * penalized log-likelihood
- Bayes rules