Bagging

Bagging: Bootstrap Aggregating

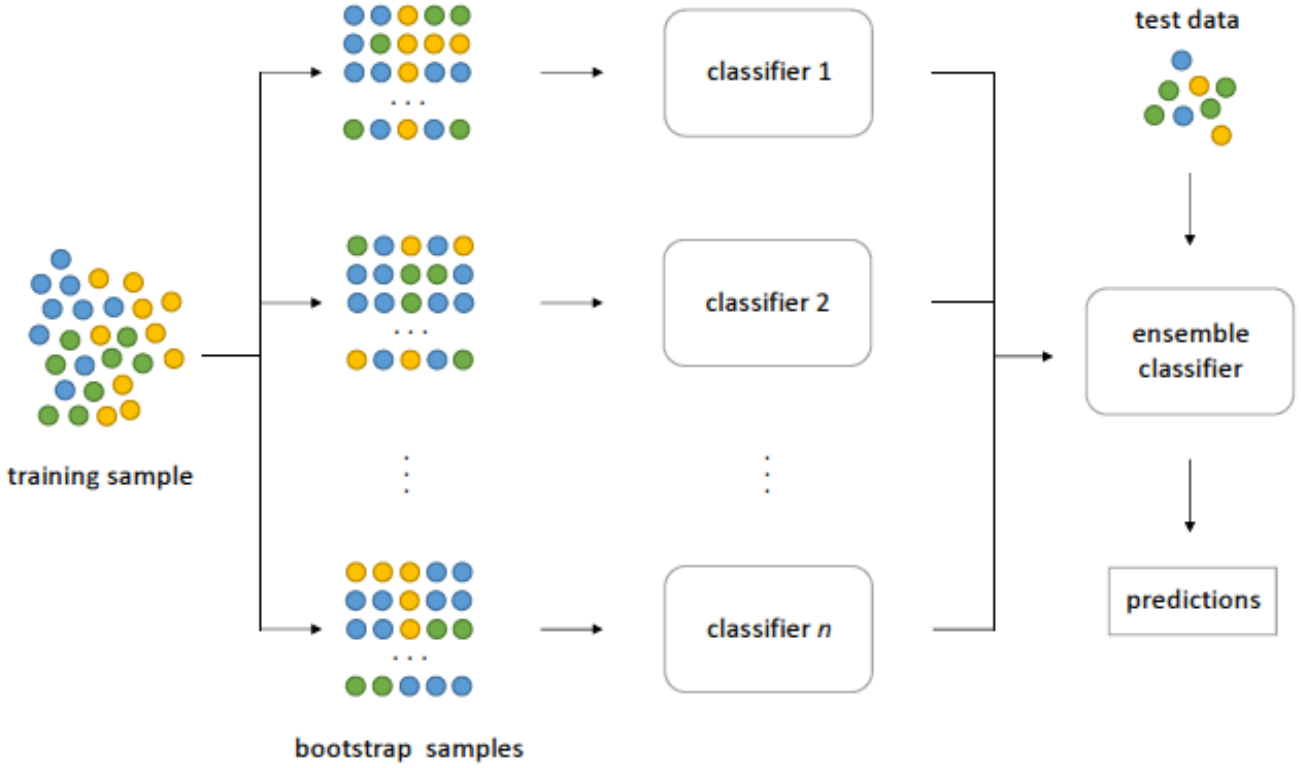
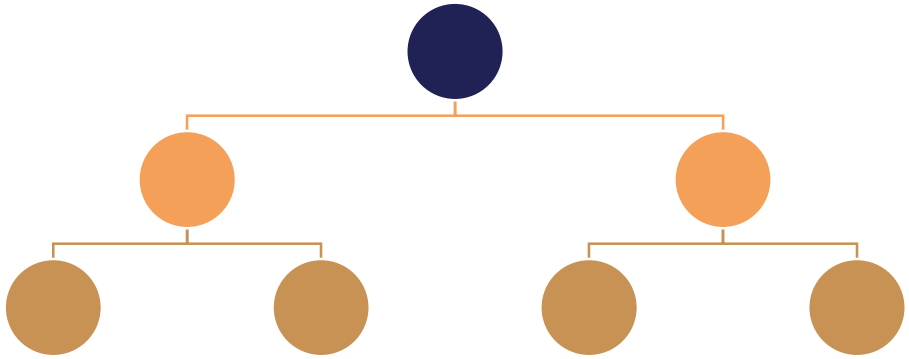


Figure 5: The bagging approach. Several classifier are trained on bootstrap samples of the training data. Predictions on test data are obtained combining the predictions of the trained classifiers with a majority voting scheme.

- Create different datasets by bootstrapping with replacement the original data
- Train a classifier on each bootstrap sample
- Combine the predictions: average or majority vote

Random Forests



- At each note, the best data split is found based on a random subset of the features.
- We consider all the opinions before making a final decision.

Bagging: Bootstrap Aggregating

- The injected randomness creates de-correlated, or de-coupled classifiers
- Which combined improve the overall generalization
- Bagging can be applied to any classifier
  - Logistic Regression
  - Decision Trees ➔ Random Forests

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THANK YOU

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