Bagging & Boosting

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let's get started

what is Bagging?

1   Bagging = "Bootstrap Aggregation"
        - Draw N items from X with replacement

2   Desired learners with high variants(Unstable)
        - Decision tree and ANNs are unstable
        - K-NN is Stable

3   Use Bootstraping to generate L training sets and train one base-Learner with each(Breiman, 1996)

4   Use Voting

what is Boosting?

1   An iterative procedure. Adaptively change the distribution of training data.

   -Initially, all N records are assign equal weights

   -Weights change at the end of Boosting round

2   On each Iteration:

   -weight each training example by how incorrectly it was classified

   -Learn a hypothesis: h_t

   -A strength for this hypothesis: a_t

3   Final Classifier:

   -A linear combination of the votes of the different classifier weigh by their strength .

Conclusion

BEHAVES, FEELS, PERCEIVES, OR THINKS

MANY THANKS

ALL REFERENCES ARE FROM WIKIPEDIA, PAPER & YOUTUBE