REPORT

Improving election prediction internationally

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Ensemble methods significantly improve prediction

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Ensemble methods (1) use multiple learning algorithms to always obtain better predictive performance than could be obtained from any of the constituent learning algorithms including decision trees. The algorithm proposed by Kennedy et al. (2) can be significantly improved by ensemble methods. There are a variety of ensemble methods including Adaboost, Randomforest, Extratree, Extratrees, Gradient-boosting, Bagging, and Voting-classifier. In Voting-classifier ensemble method, decision trees and other algorithms can be used for improving the prediction quality.

References:

1. **https://en.wikipedia.org/wiki/Ensemble_learning**
2. Ryan Kennedy, et al., "Improving election prediction internationally", Science 03 Feb 2017: Vol. 355, Issue 6324, pp. 515-520

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Ensemble methods can improve election prediction

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According to Wikipedia (1), in statistics and machine learning, ensemble methods use multiple learning algorithms to obtain better predictive performance than could be obtained from any of the constituent learning algorithms alone. The single algorithm proposed by Kennedy et al. (2) can be significantly improved by ensemble methods. There are a variety of ensemble methods including Adaboost, Randomforest, Extratree, Extratrees, Gradient-boosting, Bagging, and Voting-classifier. With the advent of open source, scikit-learn library can be easily used for realizing ensemble machine learning (3). In red wine artificial sommelier project, Voting-classifier can improve the red wine quality prediction by 5 points (4).

References:
1. **https://en.wikipedia.org/wiki/Ensemble_learning**
2. Ryan Kennedy, et al., "Improving election prediction internationally", Science 03 Feb 2017: Vol. 355, Issue 6324, pp. 515-520
3. **https://en.wikipedia.org/wiki/Scikit-learn**
4. Y. Takefuji, "Ensemble machine learning", Kindaikagaku 2016.
Competing Interests: None declared.