Ensemble Learning

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In the field of machine learning, building an independent and powerful algorithm is key to solving problems. However, ensemble learning offers a different perspective: by combining multiple "weak" learners, a more robust model can be created. This article explores the ideas, methods, and applications of ensemble learning.

For this assignment, we need to employ an ensemble learning method (such as voting, bagging, stacking, or random forests) to solve a classic problem in machine learning.

Data

You can download the data from the official website or directly import it using the third-party library in Python.

```
1. from sklearn import datasets
2.
3. iris_data = datasets.load_iris()
```

Algorithm implementation

As a common algorithm of machine learning, the decision tree algorithm can be implemented in various programming languages, such as Python, C++ ,and Matlab. You may refer to a 3rd party codebase (scikit-learn) of python.

What do you need to submit?

Please submit the following items together in a compressed file (e.g., .zip or .rar):

1. Source code files
2. Lab report containing:
   - The decision tree algorithm implemented
   - The features selected and the preprocessing methods applied
   - Experimental results and visual analysis

All assignments and the final project are to be submitted collectively.