XGBoost (Extreme Gradient Boosting)

XGBoost which is short for Extreme Gradient Boosting makes a couple of computational and algorithmic modifications to the stochastic gradient boosting algorithm. This enhanced algorithm is a favorite in machine learning practice due to its speed and has been the winning algorithm in many machine learning competitions. Let's go through some of the modifications made by the XGBoost algorithm.

1. Parallel training: XGBoost supports parallel training over multiple cores. This has made XGBoost extremely fast compared to other machine learning algorithms.
2. Out of core computation: XGBoost facilitates training from data not loaded into memory. This feature is a huge advantage when you're dealing with large datasets that may not necessarily fit into the RAM of the computer.
3. Sparse data optimization: XGBoost is optimized to handle and speed up computation with sparse matrices. Sparse matrices contain lots of zeros in its cells.

XGBoost with Scikit-learn

This section will implement XGBoost with Scikit-learn for both regression and classification use cases.

XGBoost for Classification

In this code example, we will build a XGBoost classification model to predict the species of flowers from the Iris dataset.

```
# import packages
from xgboost import XGBClassifier
from sklearn import datasets
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score

# load dataset
data = datasets.load_iris()
```