Light gbm

# library link

**install :**

https://lightgbm.readthedocs.io/en/latest/Installation-Guide.html

**Sources :**

https://lightgbm.readthedocs.io/en/latest/\_modules/lightgbm/sklearn.html#LGBMClassifier

# basic description



LightGBM is a gradient boosting framework that uses tree based learning algorithms. It is designed to be distributed and efficient with Faster training speed and higher efficiency, Lower memory usage, Better accuracy, Support of parallel, distributed, and GPU learning.

# version

* Python (64-bit as possible)
* wheel (pip install wheel)
* for windows:
* VC runtime is needed if Visual Studio (2015 or newer) is not installed.
* For Linux :
* glibc (>=2.14)
* For example code :
* pandas (pip install pandas)
* matplotlib (pip install matplotlib)

# dataset

Using Sklearn.datasets.load\_breast\_cancer.

Sources : https://scikit-learn.org/stable/datasets/toy\_dataset.html#breast-cancer-dataset

# code description

* Split dataset into train and test set, and then learned train set in the Light\_GBM model. Afterwards, the test dataset is predicted through the learned model, and the results of the first 10 portions are output.
* In addition, accuracy, precision, record, F1,AUC between predicted and actual values are calculated and output separately, and then the importance of each Features inside the model is shown through a graph.

# validation

* Inside the code, the dataset is divided into learning datasets and verification datasets to verify this.

(test\_size = 0.2, random\_state = 30)

* Additionally, the fitness between the actual value and the predicted value is evaluated using Sklearn's acuity\_score,precision\_score,recall\_score,f1\_score,roc\_auc\_score function.