Naive Bayes in sci-kit learn

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Machine Learning Practice

Naive Bayes Classifier

Naive Bayes classifier

- Naive Bayes classifier applies Bayes' theorem with the "naive" assumption of conditional independence between every pair of features given the value of the class variable.

For a given class variable y and dependent feature vector x_1 through x_m,

the naive conditional independence assumption is given by:

$$P(x_i|y, x_1, ..., x_{i-1}, x_{i+1}, ..., x_m) = P(x_i|y)$$

Naive Bayes learners and classifiers can be extremely fast compared to more sophisticated methods.

List of NB Classifiers

- Implemented in sklearn.naive_bayes module

  GaussianNB

  BernoulliNB   CategoricalNB

  MultinomialNB   ComplementNB

- Implements fit method to estimate parameters of NB classifier with feature matrix and labels as inputs.

- The prediction is performed using predict method.