Soft Computing

Content

Naive Bayes Classifier

The Naive Bayes classifier is particularly useful for text classification tasks, where the goal is to automatically assign documents or messages to different topics or categories. For example, it can be used to classify emails as spam or non-spam, or to classify news articles into different topics such as politics, sports, or entertainment.

purpose of the Naive Bayes

The purpose of the Naive Bayes classifier is to classify new instances into one of several pre-defined categories or classes. This is done by training the classifier on a dataset of instances that are already classified into these categories. The classifier learns to identify patterns in the features of the instances that are associated with each category, and uses these patterns to make predictions for new, unseen instances.
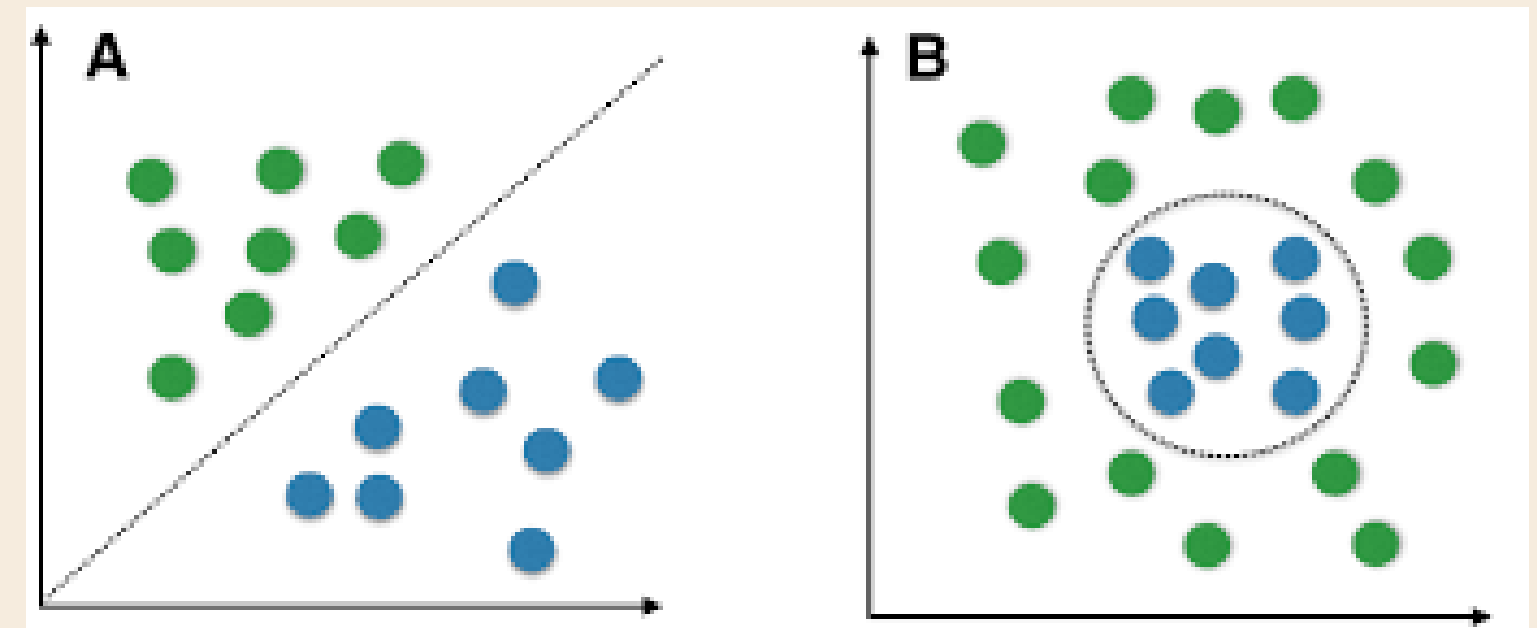
SVM Classifier

Support Vector Machine (SVM) is a popular algorithm used in machine learning for classification, regression and outlier detection tasks. SVM works by finding the best hyperplane that separates the data into two or more classes, such that the distance between the hyperplane and the closest data points from each class (known as the margin) is maximized.
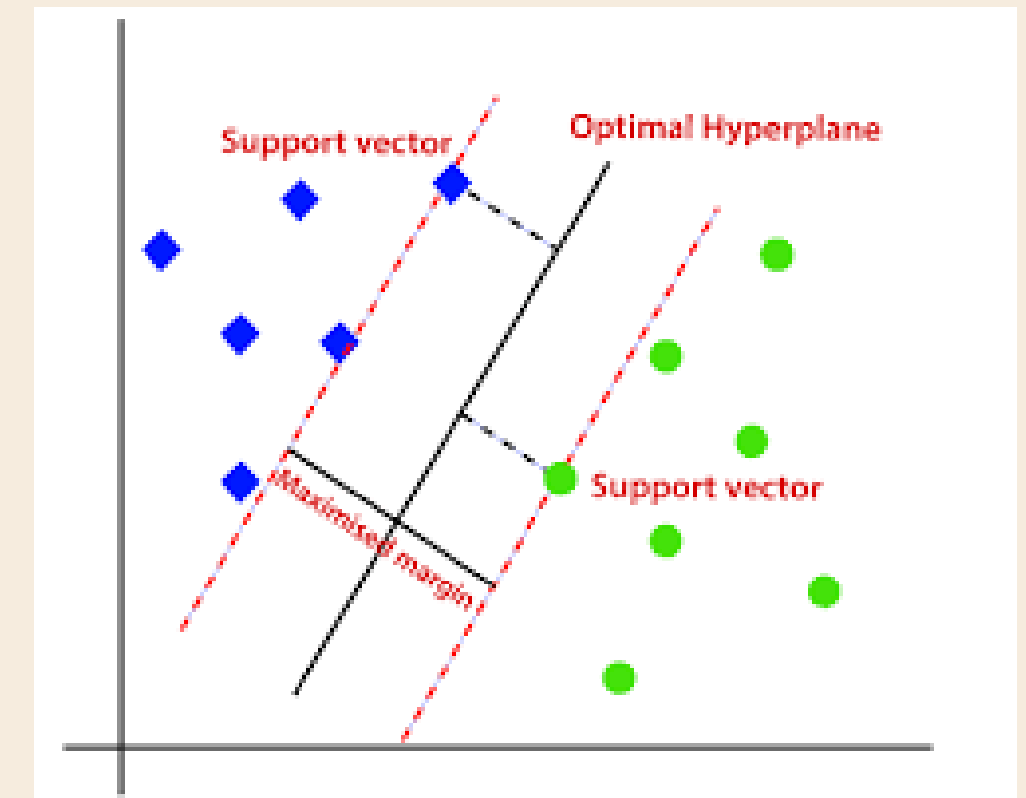
Examples for SVM

Text classification: SVM is commonly used for text classification tasks, such as sentiment analysis, spam filtering, and topic classification. For example, in sentiment analysis, SVM can be trained on a dataset of labeled text data, such as product reviews, to classify new text data as positive or negative.

Image classification: SVM can be used for image classification tasks, such as object recognition and face detection. For example, SVM can be trained on a dataset of labeled images to classify new images based on their content.

Naive Bayes VS SVM

the choice between Naive Bayes and SVM depends on the specific requirements of the task at hand. Naive Bayes is a good choice when dealing with small datasets and simple models, while SVM is a better choice for handling high-dimensional data and complex models.

THANKS!