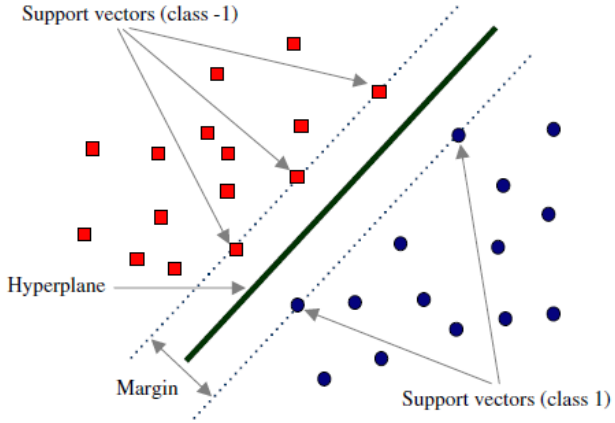
Siddhardhan

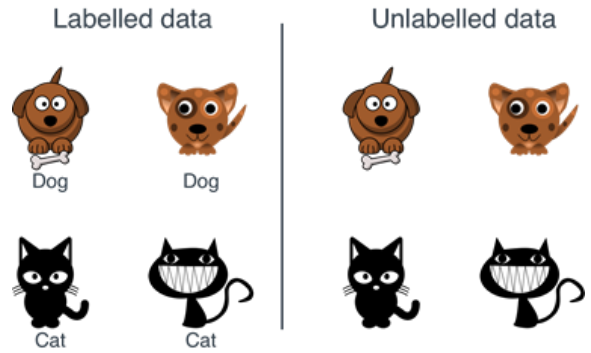
Support Vector Machine (SVM) Classifier - intuition

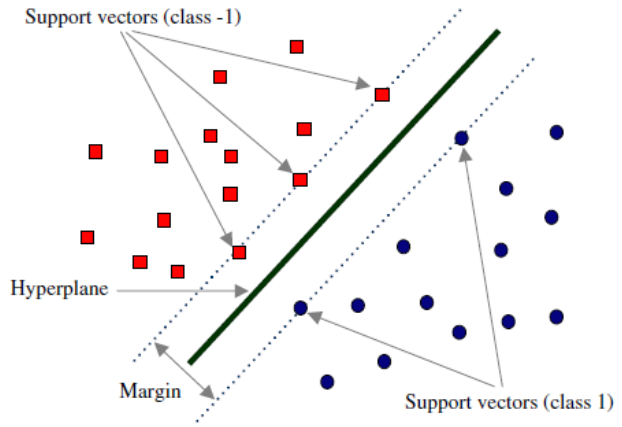


Support Vector Machine

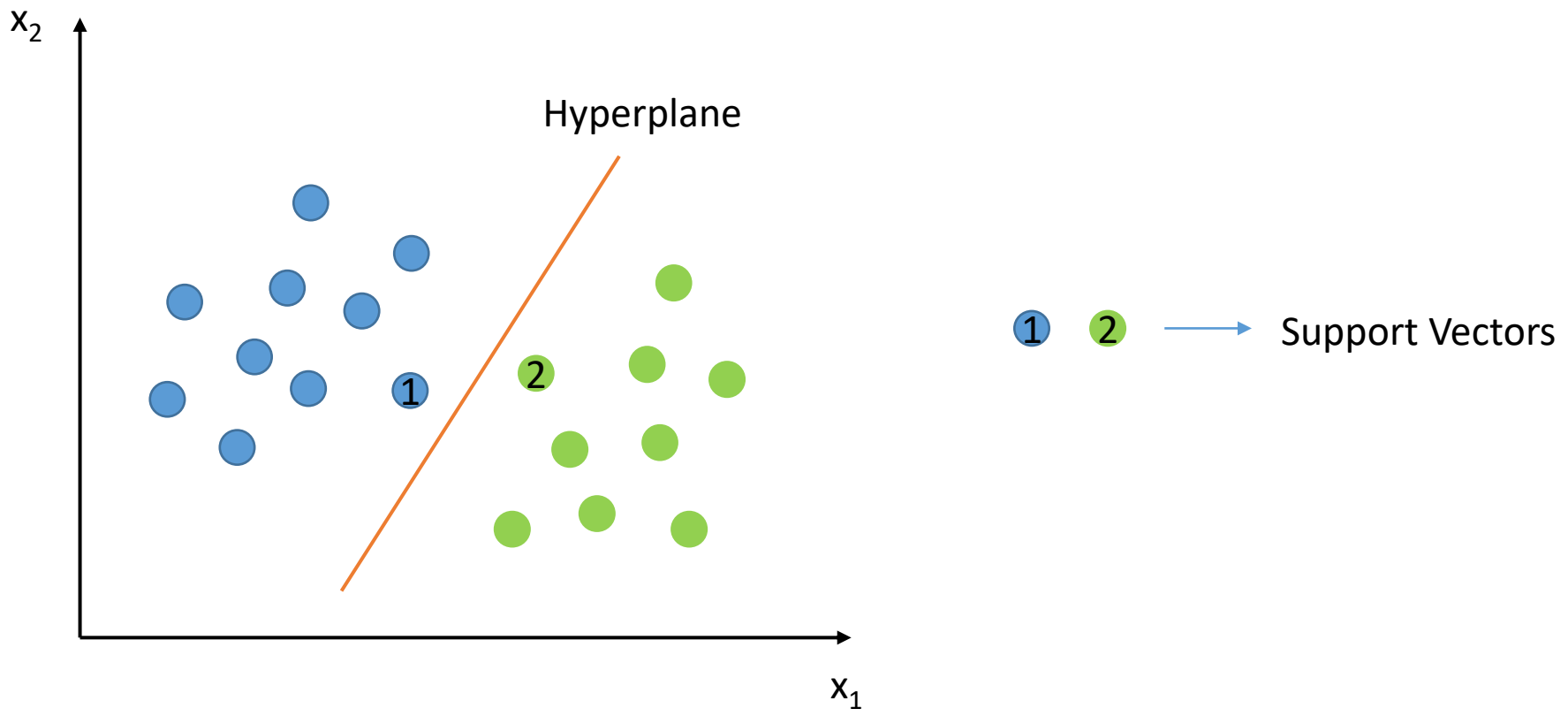
About Support Vector Machine model:

1. Supervised Learning Model
2. Both Classification & Regression
3. Hyperplane
4. Support Vectors

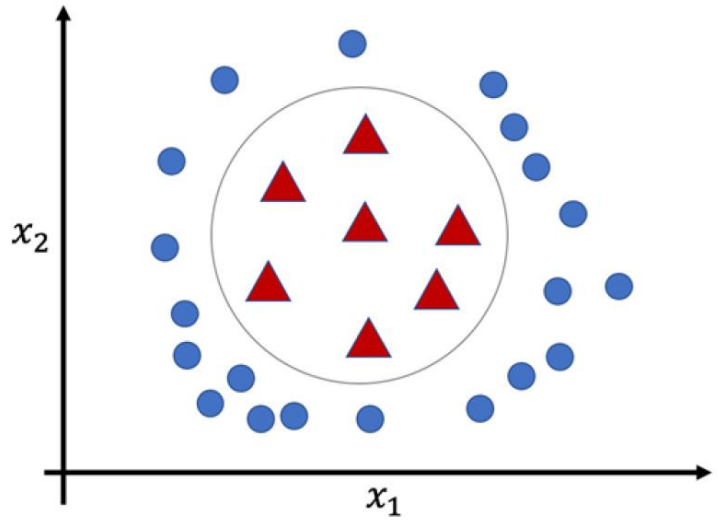




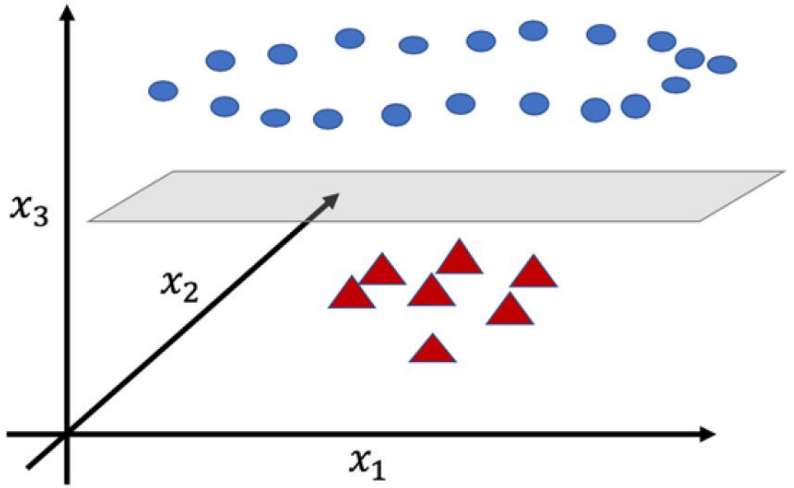
Support Vector Machine Classifier



Support Vector Machine Classifier



SVM in 2 dimensions



SVM in 3 dimensions

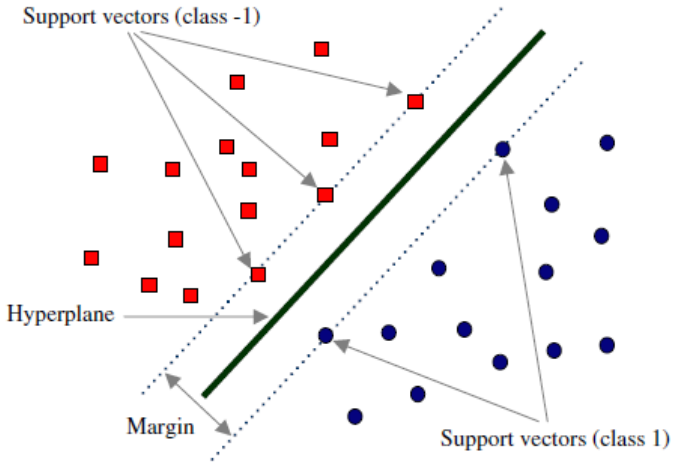
Support Vector Machine Classifier

Hyperplane:

Hyperplane is a line (in 2d space) or a plane that separate the data points into 2 classes.

Support Vectors:

Support Vectors are the data points which lie nearest to the hyperplane. If theses data points changes, the position of the hyperplane changes.



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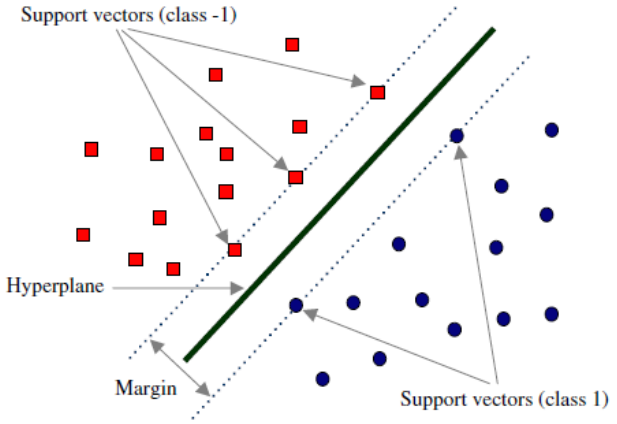
Support Vector Machine Classifier

Advantages:

1. Works well with smaller datasets
2. Works efficiently when there is a clear margin of separation
3. Works well with high dimensional data



Disadvantages:

1. Not suitable for large datasets as the training time is higher
2. Not suitable for noisier datasets with overlapping classes