Support Vector Machine (SVM)

Support Vector Machine is the supervised machine learning algorithm that can be used in classification and regression problems. However, primarily used for classification problems in machine learning.

SVM consists of support vectors that are extreme cases of the dataset, which helps create the hyperplane.

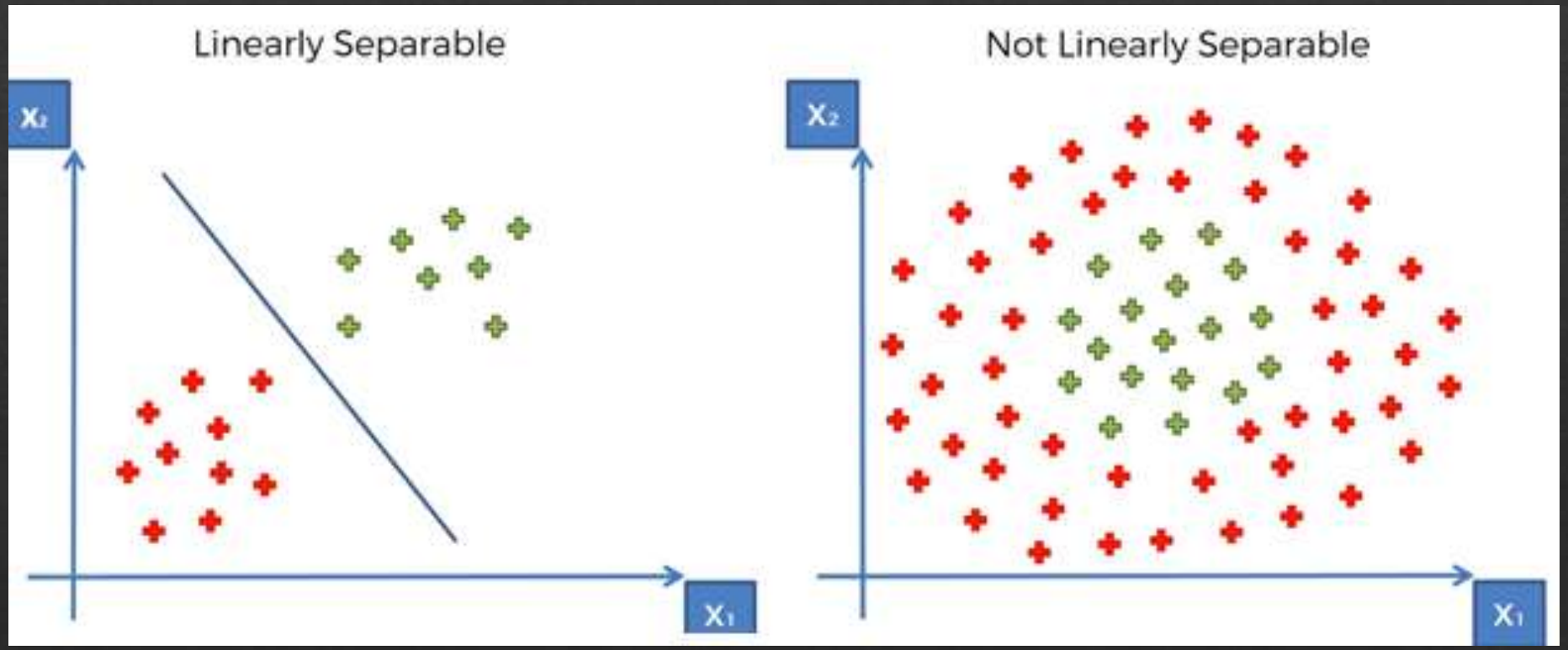
Hyperplane is the best boundary or decision boundary that helps to classify the data points.

The dimensions of the hyperplane depend are the feature present in the dataset. So if there are 2 features then and hyperplane will be a straight line if there are 3 features then the hyperplane will 2-Dimensional plane.

GitHub Link: https://github.com/AmeenUrRehman/Machine-Learning-Projects/tree/up-pages/Support%20Vector%20Machine

Types of Support Vector Machines:

- Simple SVM / Linear Separable
- Kernal SVM / Non-Linear Separable



Advantages:

- Effective in high-dimensional cases.
- Its memory is efficient.

Disadvantages:

- It becomes difficult when the no. of features exceeds three.
- Work best on small datasets because of its high training time.

Applications of SVM:

- Face Detection
- Classification of images
- Handwriting recognition
- Classification of images.