

SVM - Support Vector Machine

THEORY

- 1) It is a machine learning algorithm under supervised learning which can be used for both regression and classification tasks. It provides significant accuracy compared to computation power it requires.
- 2) Our aim is to draw a hyperplane such that all points of one category are in one side of hyperplane and of other categories on other sides, that means:

$$w^T x + b \geq 1 \forall x \in C_1 \quad (1)$$

$$w^T x + b \leq -1 \forall x \in C_2 \quad (2)$$

3)