SVM (Support vector Machine).

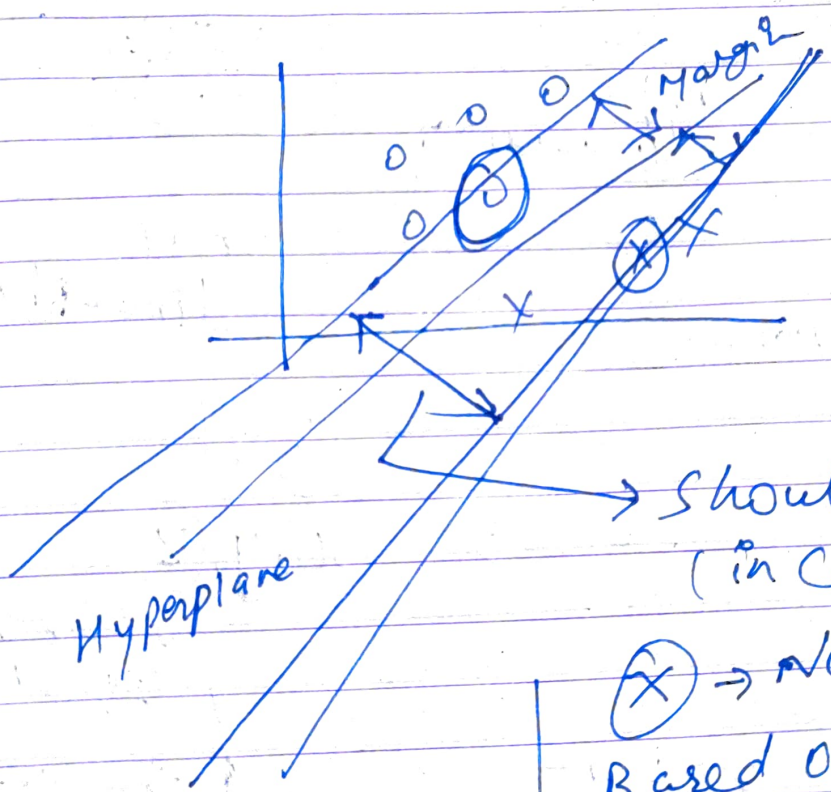
* For Both Classi. & Reg.

n → dimension of data set.

(n-1) plane. → (n-1) dimension of plane

Draw best possible hyper plane that seperate dataset & another line in parallel using margin.

↳ 1st data touch either side.



→ should be max. (in case of Classi.)

⊗ → New data.

Based on distance from margin line whoever with close that side will belong.

Support vectors used to draw margin lines.

Training data set

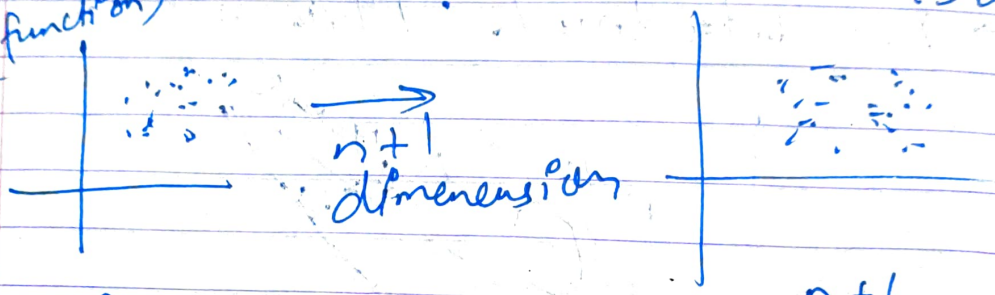
* In case of Regression Error should be as minimum to select Margin lines.

ex

Kernel trick

(If can't seperate dataset or dimension of dataset is high)

ex:- rbf (function)



n dimension.

n+1 dimension.

2d to 3d

x, y ⟶ x, y, (z)

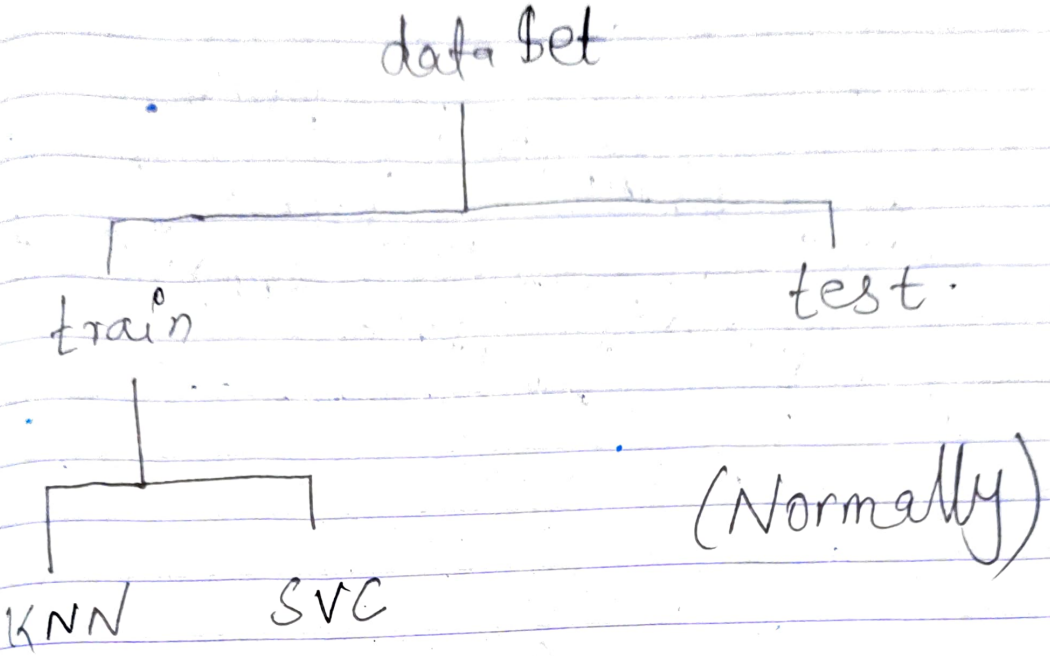
unknown. To find. (Some sort of maths)

$z^2 = x^2 + y^2$

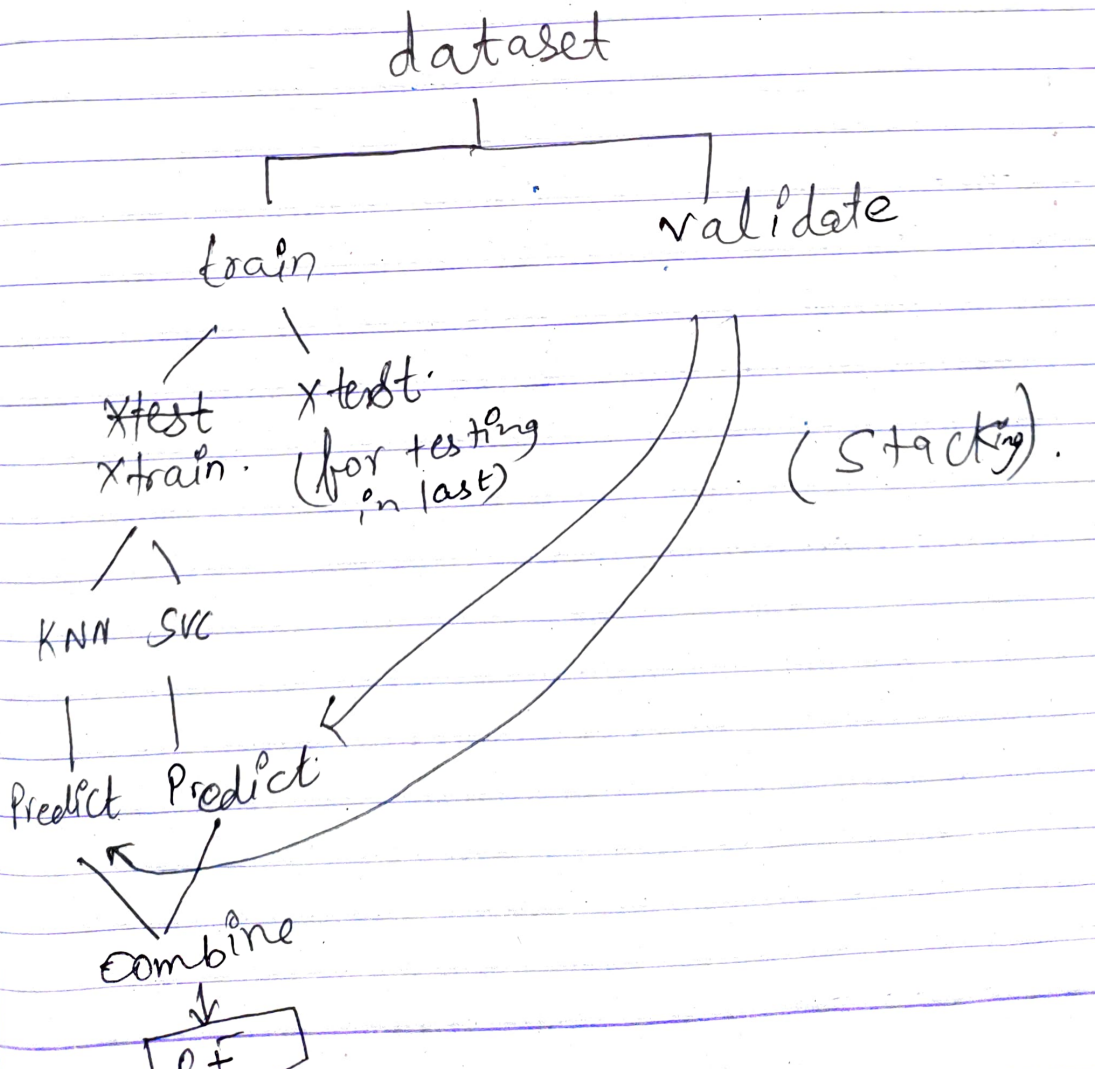
So that we can create a hyperplane.

Lower dimension ⟶ Higher dimension

Stacking



(Normally)



(Stacking).