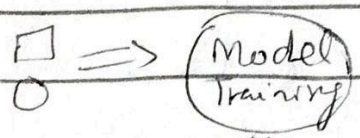
Abdul Raffy

W25-PAK-INP-AI-16

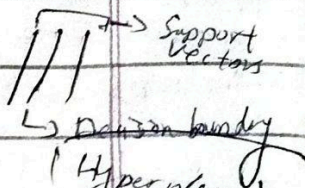
SVM

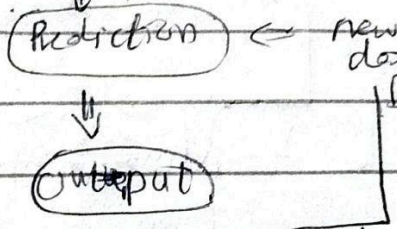
Supervised learning (classification/regression)
↓
labeled data

- It describes data is quadlateral □ or circle ○.

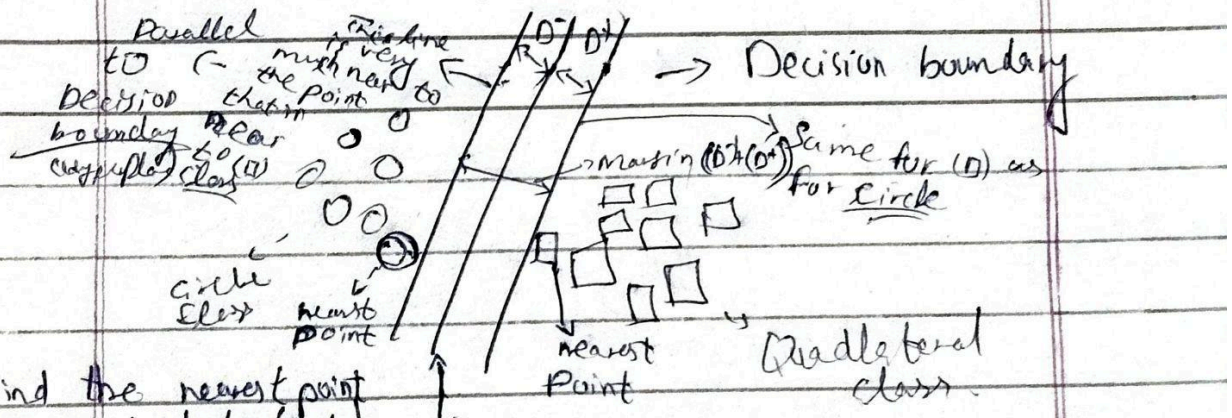


(The two parallel lines drawn to decision boundary according to nearest points of considered and opponent class are support vectors.





It tells the new data belongs to circle or quadlateral.

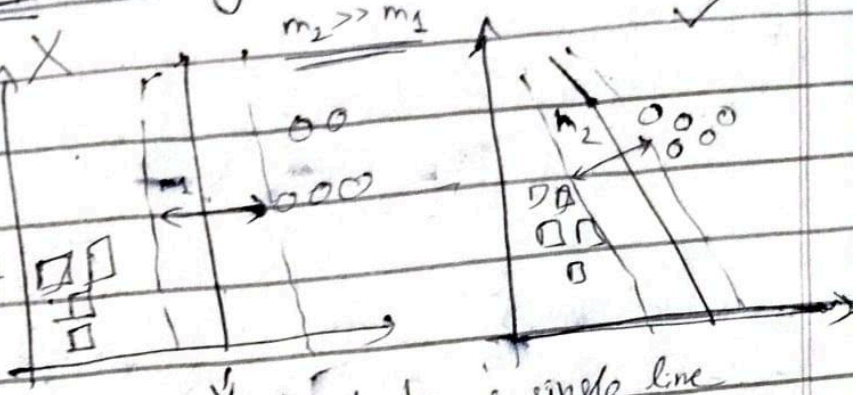


Find the nearest point in considered class (circle), that is near to the opponent class (square)

Hyperplane decides new Data is circle or Quadlateral

Margin is most important for calculation. ((O-) + (O+))

LSVM (Linearly separable data)



We use hyperplane with maximum width means its margin must have max width like in figures we will consider m_2 hyperplane

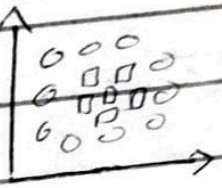
↓

Good for prediction purpose as models errors tend to very low

Data divide by a single line into two classes.

Here, u can apply LSVM.

Non-linear nature



(linearly not separable) → Miss classification Models low accuracy.