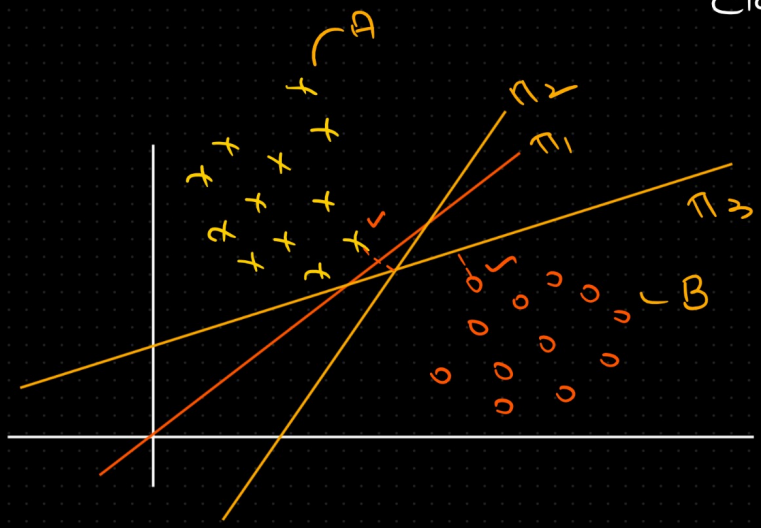
Support Vector Machine

↳ More robust to outliers — (1)

Classification & Regression — (2)

SVC — SVR



↳ Linearly separable

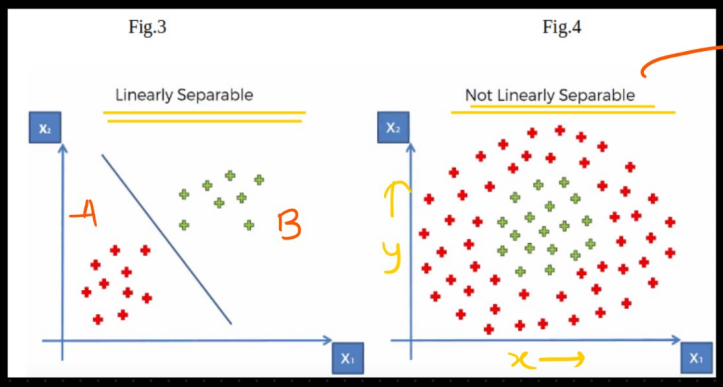
LR & SVC

↳ Non-Linearly separable

↳ SVC

(Kernel Trick)*

rbf



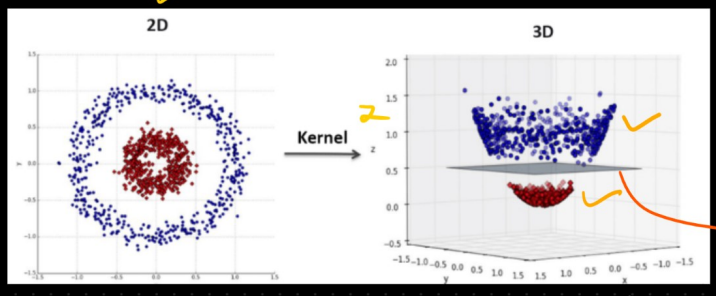
SVC

$ax+by+c=0$

2D → Line

$y=mx+c$

3D → Plane



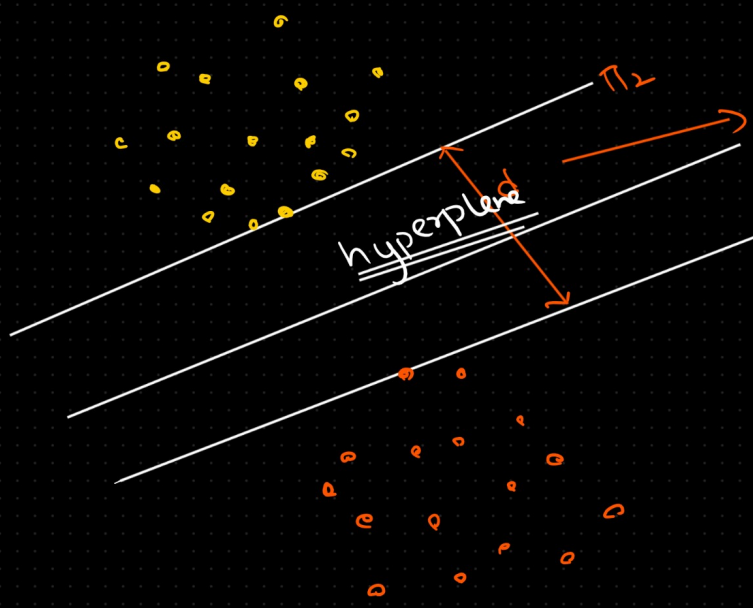
4D, 5D, ——, nD

hyperplane

Plane

Maths behind hyperplane

Support vectors



Maximize d (Margin)

↳ Proper classification

$mx + c - y = 0$

or

Line → $y = mx + c$ → $mx - y + c = 0$

$ax + by + c = 0$

Hyperplane

$a = m$

$b = -1$

$c = 1$