KH2311044010044

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ARM: - to implement a Classifier using an open source detailed, to Classify the data set using support vector machine.

## Algorithm:

- 1) Impost necessary Charles the sclean, mathetlebetc...
- 1 wad the data set
- 3 Par pao Cess the data
  - & school fost two features for aD-visudisation
  - \* split the dataset Posto training and testing sets-
  - of Standard the featured listing standard scalas.
- 4 Installate Sum with a linear model

  \* It the model why towning data.
  - 5) Visualize the decisions boundwised \* Create a meshgood of input 8132
    - or predict the class for each point in the good
    - > Plot the segions along with actual toaining points.

# Step: 1: Import Usbaided

impost pandas as Pd impost numpy as no impost matplotleb. Py plot asptt impost

from 8k leasn. lenear-model Propost logistic segression

from 8k leasn. lenear-model - selection Propost toolin-test-split

from 8k leasn. metales impost classification-seport, Confusion, motors

accuracy-scool

\$188 = load the Poils detailst

X = Pd. Data frame (PSP8.data / Columns = 958 f. features\_rames)
y = Pd. Roster ( PSP8. teasget , name = 1 species)

\*\* Step-3 :- Split the details

X-town, X-test, y-town, y-test = town-test-split (X, d, test-split (X, d, test-split (X))

and - State= 42)

# Step: 4- took the logistic regression model:

model = logistic segression Croaxi-itex= 2000)

model. It (x-tooin, y-tooin)

# ARP:5 - Make Porcellettors

8-Porcel = model · Porcellett (x-test)

Prent ("Accuracy:", accuracy - Score (y-test, y-pred))

Prent ("In confusion motors: In", classification, sepost

Cy-test, y-pred)

Prent ("In confusion motors: In", confusion-motors (y-test, y-pred))

# SEP:7 - VPSualize the Confusion motified

Plt. Aguse (Ag 882e = (6,4))

X = 988 taget - named

y = Poff. tayet\_name

PIt. totle ("Confusion motoix")

PH · X label (" Predecated")

Plt oy label ("Actual")

Plt. show ()

Rebut: - the sum clathines was successfully implemented on the 888 dataset using two seatures.

2/1/1/8/1/8

output :-ENTRE 30000 3 L 1928 to an article Parish Allway: 1.0 recall f1-score support 1:00 wind per 19 165 post seport = Classification Precision 1.00 4.00 grantab 3 mas 7.00 0 1.00 1.00 100 James 45 0 1 accuracy 1.00 1.00 1.00 macro ay welghted 1.00 1.00 1000 that girl get bird -Confusion material () \$167 boxs) -294 007 A - Pd - Octa Goog ( 1328 data [0 13 0 ] non , treat . 878 ) 6568 - 61 - 0 thatab sep 1098 -: 8915 "

- total , x - total , y - total - total - total - total or total - total or total or

wodel = legitate regression (max-ture acc)

model = try (x-tailn, y-reals)

4

[∱]	Epoch [50/200], Loss: 0.5251  Epoch [100/200], Loss: 0.3660  Epoch [150/200], Loss: 0.3003  Epoch [200/200], Loss: 0.2563  Accuracy: 0.86666666666666666						
	Classificatio	n Report: precision	recall	f1-score	support		
	0	1.00	1.00	1.00	15		
	1	0.80	0.80	0.80	15		
	2	0.80	0.80	0.80	15		
	accuracy macro avg	0.87	0.87	0.87 0.87	45 45		
	weighted avg	0.87	0.87	0.87	45		

