**Pothole Detection And Repairing code**

Code:

import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

from sklearn.model\_selection import train\_test\_split

from sklearn.datasets import load\_iris

from sklearn.svm import SVC as SV

from sklearn.metrics import accuracy\_score

data = pd.read\_csv('C:/Users/Administrator/Desktop/Machine learning/pothole.csv') # read the dataset

data

|  | **Image** | **depth** | **width** | **Pothole** |
| --- | --- | --- | --- | --- |
| **0** | image1 | 20 | 100 | 1 |
| **1** | image2 | 30 | 150 | 1 |
| **2** | image3 | 10 | 20 | 0 |
| **3** | image4 | 5 | 40 | 1 |
| **4** | image5 | 5 | 0 | 0 |
| **5** | image6 | 10 | 20 | 0 |
| **6** | image7 | 20 | 70 | 1 |
| **7** | image8 | 30 | 60 | 1 |
| **8** | image9 | 40 | 10 | 1 |
| **9** | image10 | 50 | 10 | 1 |
| **10** | image11 | 10 | 2 | 0 |
| **11** | image12 | 15 | 3 | 0 |
| **12** | image13 | 12 | 40 | 1 |
| **13** | image14 | 13 | 5 | 0 |

data.shape #find the shape of matrix

#(14, 4)

df= pd.DataFrame(data, columns=['Image','Depth','Width','pothole'])

df

|  | **Image** | **Depth** | **Width** | **pothole** |
| --- | --- | --- | --- | --- |
| **0** | Image1 | 1 | 1 | 1 |
| **1** | Image2 | 1 | 1 | 1 |
| **2** | Image3 | 1 | 0 | 1 |
| **3** | Image4 | 0 | 1 | 0 |
| **4** | Image5 | 1 | 0 | 1 |
| **5** | Image6 | 0 | 1 | 1 |
| **6** | Image7 | 0 | 1 | 0 |
| **7** | Image 8 | 0 | 1 | 0 |
| **8** | Image9 | 1 | 0 | 1 |
| **9** | Image10 | 1 | 0 | 1 |
| **10** | Image11 | 1 | 1 | 1 |
| **11** | Image12 | 1 | 1 | 1 |
| **12** | Image13 | 1 | 0 | 1 |
| **13** | Image14 | 0 | 0 | 0 |

svc= SV(probability=True,kernel='rbf', C=10000.0,gamma=0.1)

x=df.iloc[:,0:12]

y=df.iloc[:,-1]

Xtrain, Xtest, Ytrain ,Ytest =train\_test\_split(x,y,test\_size=0.2,random\_state= 20)

svc.fit(Xtrain, Ytrain)

**svc.predict(Xtest)**

**Ytest**

**accuracy\_score(svc.predict(Xtest),Ytest)**

**svc.predict\_proba(Xtest)**