

## SVM

from sklearn.datasets import load\_breast\_cancer  
import matplotlib.pyplot as plt

from sklearn.inspection import DecisionBoundaryDisplay

from sklearn.Svm import SVC

Cancer = load\_breast\_cancer()

x = Cancer.data[:, :2]

y = Cancer.target

Svm = SVC(Kernel='rbf', gamma=0.5, C=10)  
Svm.fit(x, y)

Decision Boundary Display - from estimator Svm

response method = "predict"

map = plt.cm.spectral,

alpha = 0.8,

xlabel = Cancer.feature\_names[0],

ylabel = Cancer.feature\_names[1],

plt.scatter(x[y == 0], x[:, 1], c=y, s=20,

edge\_color='k')

plt.show()

PcA

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import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
from sklearn.decomposition import PCA
from sklearn.preprocessing import StandardScaler
from sklearn.datasets import load_breast_cancer
data = load_breast_cancer()
data.keys()
print(data['feature_names'])
df = pd.DataFrame(data['data'], columns = data['feature_names'])
Scaling = StandardScaler()
Scaling.fit(df)
scaled_data = Scaling.transform(df)
Principal = PCA(n_components = 2)
principal_df = scaled_data
X = principal.transform(scaled_data)
plt.figure(figsize = [10,10])
plt.scatter(x[:,0], x[:,1], c = 'target')
cmap = 'plasma'
plt.xlabel('PC1')
plt.ylabel('PC2')

```