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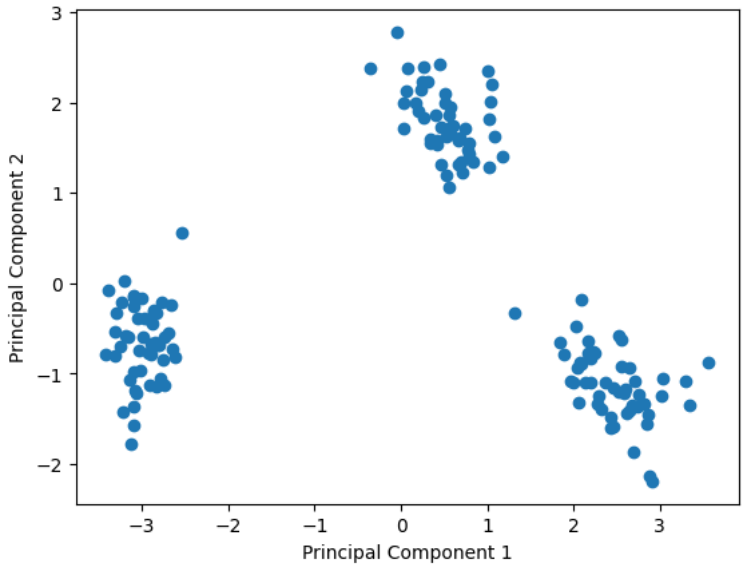
Subject - DNN

PCA

```
import pandas as pd
import numpy as np
from sklearn.preprocessing import StandardScaler
from sklearn.decomposition import PCA
import matplotlib.pyplot as plt


# Load the dataset
data = pd.read_csv('/content/Iris.csv')


# Preprocess the data
data = data.dropna()
data = pd.get_dummies(data)


# Standardize the data
scaler = StandardScaler()
scaled_data = scaler.fit_transform(data)


# Perform PCA
pca = PCA()
principal_components = pca.fit_transform(scaled_data)


# Interpret the results
explained_variance_ratio = pca.explained_variance_ratio_
print(explained_variance_ratio)
```

```
[6.48914112e-01 2.23111092e-01 8.77846212e-02 2.39114828e-02
 1.08491139e-02 3.50836497e-03 1.92121339e-03 9.39228811e-33]
```

```
plt.scatter(principal_components[:, 0], principal_components[:, 1])
plt.xlabel('Principal Component 1')
plt.ylabel('Principal Component 2')
plt.show()
```



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