

██████████ ██████████ ████████ █ PCA ██████████ : ████████ #

(1 #)

(2 #)

PCA [REDACTED] . [REDACTED]

.(██████████ 10 █████) ██████████ ██████████ ██████████ ██████████ ██████████ ██████████ ██████████ -

[REDACTED] (3 #)

`.\src/traditional_methods/pca.py` [] `PCASelector` [] -

.....

.....

`src/traditional_methods/pca.py` :

(██████████ ████████) ██████████ ██████████ ██████████ (4 #)

```
<code class="language-bash">source venv/bin/activate
```

: [REDACTED] .2

```
<code class="language-bash">python TEST_PCA.py
```

2

```
<code class="language-bash">python3 TEST_PCA.py
```

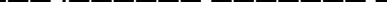
```
...`data/sample_dataset.csv`
```

 (5 #)

: (Classification) ████ -

%95 :  -

(███████████) 50 █████ 25 :███████████ █████ ███

%95.07  -

:-----

Accuracy): ~0.90) -

- F1 (weighted): ~0.85

: (Regression) ■■■■■■■■■ -

%96.54 ~ :  -

- R2: ~0.09 (███████████ ██████████ ██████████ ████████ ████████ ████████)

.....

 (6 #)

• [REDACTED] • [REDACTED]

```
<code class="language-python">from src.traditional_methods import PCASelector

pca = PCASelector(n_components=0.95)

pca.fit(X_train, y_train)

selected_indices = pca.get_selected_features()

X_train_selected = X_train[:, selected_indices]

X_test_selected = X_test[:, selected_indices]</code>
```

A horizontal bar composed of 20 black squares, representing a sequence of binary digits.

```
<code class="language-python">X_train_pcs = pca.transform(X_train)  
X_test_pcs = pca.transform(X_test)
```

(7 #)

- PCA

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[REDACTED] (8 ##)

. (PCA (SVM, Logistic Regression

(PCs) -

..... -

..... (9 ##

.....
.....
..... :
..... PCA

..... (10 ##

- Jolliffe, I. T. (2002). Principal Component Analysis. Springer.

- sklearn.decomposition.PCA `scikit-learn` .