Title: Implementation of learning algorithm for an application

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Aim:

Implementation of learning algorithm for K-nearest Neighbor Algorithm.

Algorithm:

```
from sklearn.neighbors import KNeighborsClassifier
from base import Base
Xtrain, Xtest, ytrain, ytest = Base.clean_and_split()
model = KNeighborsClassifier(n_neighbors=7)
model.fit(Xtrain, ytrain)
ypred = model.predict(Xtest)
print("\n\nK-Nearest Neighbor Accuracy Score:", Base.accuracy_score(ytest, ypred), "%")
```

```
[Running] python -u "/top-10-machine-learning-algorithms-sklearn/knn.py"
K-Nearest Neighbor Accuracy Score: 74.0 %
[Done] exited with code=0 in 0.775 seconds
```

```
# Transforming n-features into 2

pca = PCA(n_components=2).fit(X)
pca_2d = pca.transform(X)


for i in range(0, pca_2d.shape[0]):
if y[i] == 1:
c1 = pl.scatter(pca_2d[i,0], pca_2d[i,1], c='g', marker='o')

    elif y[i] == 0:
```
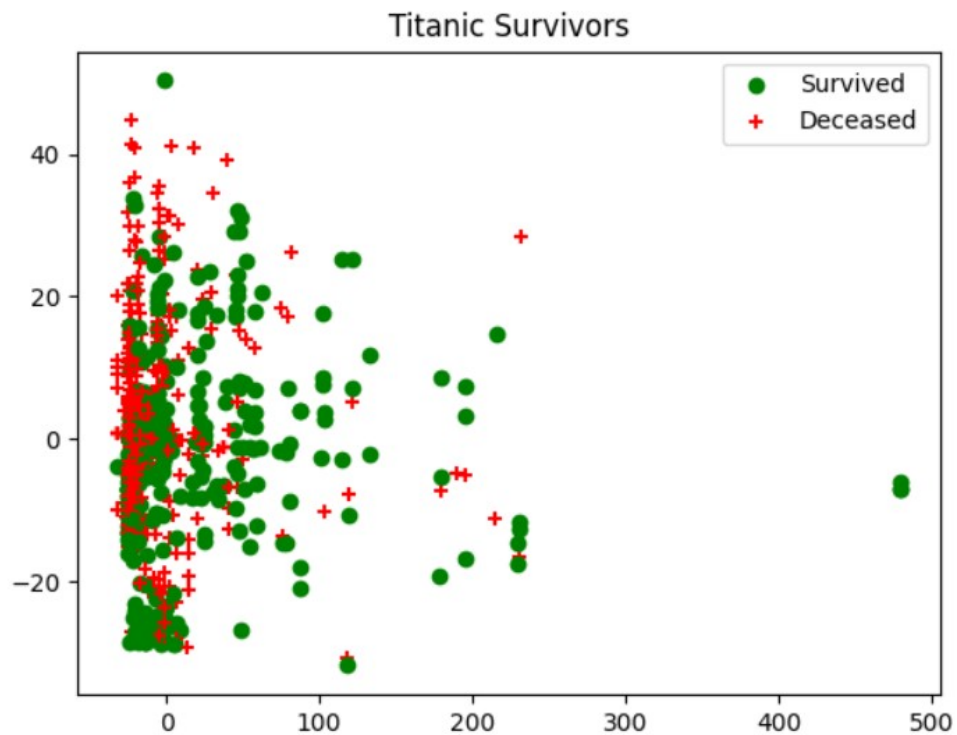
```
        c2 = pl.scatter(pca_2d[i,0], pca_2d[i,1], c='r', marker='+')
pl.legend([c1, c2], ['Survived', 'Deceased'])
pl.title('Titanic Survivors')
plt.savefig('visualizations/knn.png')
```

Output:

Result:

Successfully Implemented K-nearest Neighbor Algorithm.