

```
1 C:\Users\sriini\PycharmProjects\pythonProject\venv\  
  Scripts\python.exe C:\Users\sriini\PycharmProjects\  
  pythonProject\codes\xgb.py  
2 Class  
3 0    284315  
4 1      492  
5 Name: count, dtype: int64  
6 Normal share = 99.83  
7 Fraud share= 0.17  
8 C:\Users\sriini\PycharmProjects\pythonProject\codes\  
  xgb.py:30: UserWarning:  
9  
10 `distplot` is a deprecated function and will be  
   removed in seaborn v0.14.0.  
11  
12 Please adapt your code to use either `displot` (a  
   figure-level function with  
13 similar flexibility) or `kdeplot` (an axes-level  
   function for kernel density plots).  
14  
15 For a guide to updating your code to use the new  
   functions, please see  
16 https://gist.github.com/mwaskom/  
de44147ed2974457ad6372750bbe5751  
17  
18     ax = sns.distplot(data_fraud['Amount'],label='  
      fraudulent',hist=False)  
19 C:\Users\sriini\PycharmProjects\pythonProject\codes\  
  xgb.py:31: UserWarning:  
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28
29     ax = sns.distplot(data_non_fraud['Amount'],label='
non fraudulent',hist=False)
30
31      Time      V1      V2 ...      V27
32      V28      Amount
33 201788  134039.0  2.023734 -0.429219 ... -0.000063 -
0.046947 -0.345273
34 179369  124044.0 -0.145286  0.736735 ... -0.006357
0.146053 -0.206439
35 73138   54997.0 -3.015846 -1.920606 ... -0.100726 -
0.365257  0.358043
36 208679  137226.0  1.851980 -1.007445 ... -0.094066 -
0.031488  0.362400
37 [5 rows x 30 columns]
38
39      Time      V1      V2 ...      V27
40      V28      Amount
41 49089   43906.0  1.229452 -0.235478 ...  0.060052
0.018104 -0.340485
42 154704  102638.0  2.016893 -0.088751 ... -0.048958 -
0.042831 -0.320859
43 67247   52429.0  0.535093 -1.469185 ... -0.083364
0.052485  0.853442
44 251657  155444.0  2.128486 -0.117215 ... -0.071733 -
0.072238 -0.344410
45 [5 rows x 30 columns]
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706 Before SMOTE oversampling X_train shape= (227845, 30
   )
707 After SMOTE oversampling X_train shape= (454898, 30)
708 Fitting 3 folds for each of 6 candidates, totalling
   18 fits
709     mean_fit_time  std_fit_time  ...
   mean_train_score  std_train_score
710 0          2.919104      0.085766  ...
   999726          0.000015
711 1          2.773820      0.200563  ...
   999727          0.000007
712 2          2.565724      0.020102  ...
   999712          0.000015
713 3          2.611604      0.033221  ...
   0.
```

```

713 999977      0.000003
714 4          2.664880      0.069400 ...          0.
    999979      0.000002
715 5          2.797274      0.250438 ...          0.
    999981      0.000001
716
717 [6 rows x 18 columns]
718 {'learning_rate': 0.6, 'subsample': 0.9}
719 C:\Users\srini\PycharmProjects\pythonProject\venv\
    Lib\site-packages\xgboost\core.py:160: UserWarning
        : [16:48:48] WARNING: C:\buildkite-agent\builds\
            buildkite-windows-cpu-autoscaling-group-i-
            0b3782d1791676daf-1\xgboost\xgboost-ci-windows\src\
            learner.cc:742:
720 Parameters: { "params" } are not used.
721
722     warnings.warn(smsg, UserWarning)
723 C:\Users\srini\PycharmProjects\pythonProject\venv\
    Lib\site-packages\xgboost\core.py:160: UserWarning
        : [16:48:51] WARNING: C:\buildkite-agent\builds\
            buildkite-windows-cpu-autoscaling-group-i-
            0b3782d1791676daf-1\xgboost\xgboost-ci-windows\src\
            c_api\c_api.cc:1240: Saving into deprecated binary
            model format, please consider using `json` or `ubj`
            `. Model format will default to JSON in XGBoost 2.2
            if not specified.
724     warnings.warn(smsg, UserWarning)
725 [[227448      1]
726 [      0 227449]]
727 Accuracy:- 0.9999978017049976
728 Sensitivity:- 1.0
729 Specificity:- 0.9999956034099952
730             precision      recall   f1-score
    support
731
732         0      1.00      1.00      1.00
    227449
733         1      1.00      1.00      1.00
    227449
734
735     accuracy                  1.00

```

```
735 454898
736    macro avg      1.00      1.00      1.00
        454898
737 weighted avg      1.00      1.00      1.00
        454898
738
739 0.999999994664919
740 [[56835      31]
741 [     21      75]]
742 Accuracy:- 0.9990871107053826
743 Sensitivity:- 0.78125
744 Specificity:- 0.9994548587908416
745          precision      recall      f1-score
    support
746
747      0      1.00      1.00      1.00
    56866
748      1      0.71      0.78      0.74
    96
749
750      accuracy           1.00
    56962
751      macro avg      0.85      0.89      0.87
    56962
752 weighted avg      1.00      1.00      1.00
    56962
753
754 0.9635174870162604
755
756 Process finished with exit code 0
757
```