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/Users/molly/anaconda3/envs/AI~final/bin/python /Users/molly/AI~final/FinalMain.py
Data Amount Before Balance: (16294,) (430115,)
Data Amount After Balance: (107528,) (430115,)
The best Logistic Regression Model we train is: LogisticRegression(C=0.01, class_weight=None, dual=False, fit_intercept=True,
                   intercept_scaling=1, l1_ratio=None, max_iter=100,
                   multi_class='auto', n_jobs=None, penalty='l2',
                   random_state=None, solver='liblinear', tol=0.0001, verbose=0,
                   warm_start=False)
The Logistic Regression Model has gini-coefficiency: 0.2453411429741772
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Data Amount Before Balance: (16294,) (430115,)
Data Amount After Balance: (107528,) (430115,)
The best Random forest Model we train is: RandomForestClassifier(bootstrap=True, ccp_alpha=0.0, class_weight=None,
                       criterion='gini', max_depth=None, max_features='sqrt',
                       max_leaf_nodes=None, max_samples=None,
                       min_impurity_decrease=0.0, min_impurity_split=None,
                       min_samples_leaf=1, min_samples_split=2,
                       min_weight_fraction_leaf=0.0, n_estimators=200,
                       n_jobs=None, oob_score=False, random_state=None,
                       verbose=0, warm_start=False)
The Random Forest Classifier has gini-coefficiency: 0.19397953604462537
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Data Amount Before Balance: (16294,) (430115,)
Data Amount After Balance: (107528,) (430115,)
The best Neural Network Model we train is: MLPClassifier(activation='relu', alpha=0.6, batch_size='auto', beta_1=0.9,
              beta_2=0.999, early_stopping=False, epsilon=1e-08,
              hidden_layer_sizes=[100, 10], learning_rate='constant',
              learning_rate_init=0.001, max_fun=15000, max_iter=5000,
              momentum=0.9, n_iter_no_change=10,
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29 nesterovs_momentum=True,
30               power_t=0.5, random_state=10, shuffle=True,
   solver='sgd',
31               tol=0.0001, validation_fraction=0.1, verbose=
   False,
32               warm_start=False)
33 The Neural Network Model has gini-coefficiency: 0.
   24054957525812393
34 ----------------------------------------------------
35 The best LDA model we train is: LinearDiscriminantAnalysis(
   n_components=None, priors=None, shrinkage=None,
36                               solver='svd', store_covariance=
   False, tol=0.0001)
37 The LDA Model has gini-coefficiency: 0.21328034855258993
38 ----------------------------------------------------
39
40 Process finished with exit code 0
41
```