



Model Development Phase Template

Date	10 July 2024
Team ID	740021
Project Title	Sepsis Survival Minimal Clinical Records
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

This initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include classification reports, accuracy, and confusion matrices for multiple models, presented through respective screenshots.

Initial Model Training Code



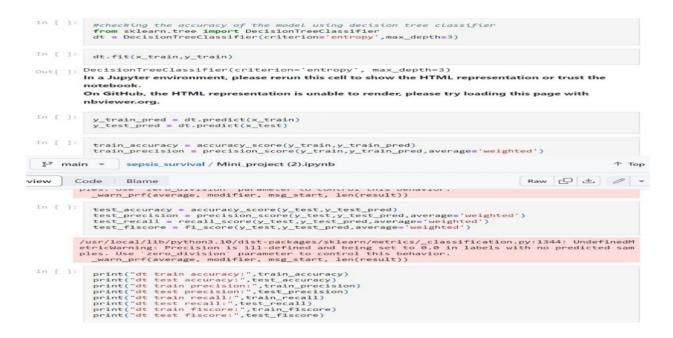












#checking accuracy using randomforest classifier
from sklearn.ensemble import RandomForestClassifier
fr= RandomForestClassifier(n_estimators=2,max_depth=2,criterion='entropy',bootstrap= T rf.fit(x_train,y_train) $_{ t Out[\]:}$ RandomForestClassifier(criterion='entropy', max_depth=2, n_estimators=2) In a Jupyter environment, please rerun this cell to show the HTML representation or trust the On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org. In []: y_train_pred = rf.predict(x_train)
y_test_pred = rf.predict(x_test) train_accuracy = accuracy_score(y_train,y_train_pred)
train_precision = precision_score(y_train,y_train_pred,average='weighted')
train_recall = recall_score(y_train,y_train_pred,average='weighted')
train_flscore = f1_score(y_train,y_train_pred,average='weighted') /usr/local/lib/python3.10/dist-packages/sklearn/metrics/_classification.py:1344: Undefine tricWarning: Precision is ill-defined and being set to 0.0 in labels with no predicted ples. Use 'zero_division' parameter to control this behavior.
_warn_prf(average, modifier, msg_start, len(result)) test_accuracy = accuracy_score(y_test,y_test_pred)
test_precision = precision_score(y_test,y_test_pred,average='weighted')
test_recall = recall = score(v_test.v_test_pred.average='weighted') % main - sepsis_survival / Mini_project (2).ipynb riew Code Blame Raw C + _warn_prf(average, modifier, msg_start, len(result)) print("rf train accuracy:",train_accuracy)
print("rf test accuracy:",test_accuracy)
print("rf train precision:",train_precision)
print("rf test precision:",test_precision)
print("rf train recall:",train_recall)
print("rf test recall:",test_recall)
print("rf train flscore:",train_flscore)
print("rf test flscore:",test_flscore)





Model Valuation And Evalution Report

Model	Classification Report	F1 Score	
KNN	knn train accuracy: 0.912649117458995 knn test accuracy: 0.912901279494459 knn train precision: 0.8615120571673442 knn test precision: 0.863412053243682 knn train recall: 0.912649117458935 knn test recall: 0.9129012796494459	88%	
Random Forest	rf train accuracy: 0.9232590737741729 rf test accuracy: 0.9226494776617026 rf train precision: 0.852407317365437 rf test precision: 0.8512808586294125 rf train recall: 0.92269477741729 rf test recall: 0.922694776617026	89%	

Decision Tree	dt train accuracy: 0.9232590737741729 dt test accuracy: 0.9226494776617026 dt train precision: 0.8504073173063437 dt test precision: 0.851820586294125 dt train recall: 0.922590973741729 dt test recall: 0.9225094776617026	89%
Logistic Regression	log train accuracy: 0.9232590737741729 log test accuracy: 0.9226494776617026 log train precision: 0.8524973173663437 log test precision: 0.85128265629415 log train recall: 0.9232590737741729 log test recall: 0.9226494776617026	89%