Model Development Phase Template

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| Date | 5th July 2024 |
| Team ID | 740667 |
| Project Title | Travel Insurance Prediction |
| Maximum Marks | 4 Marks |

Initial Model Training Code, Model Validation and Evaluation Report

The 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:

RandomForest Classifier:

Model Building With Random Forest Classifier from sklearn.ensemble import Random ForestClassifier

rfc = RandomForestClassifier(max\_depth=6)

rfc.fit(X\_train, y\_train

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Random ForestClassifier

rfc = RandomForestClassifier(max\_depth=6)

rfc.fit(X\_train, y\_train

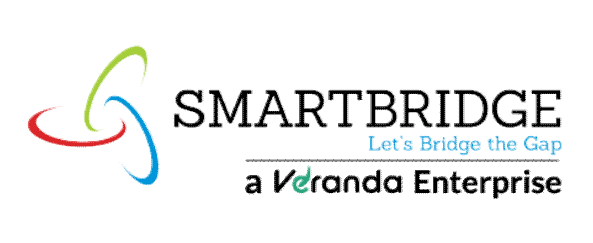
Random ForestClassifier

rfc = RandomForestClassifier(max\_depth=6)

rfc.fit(X\_train, y\_train

DecisionTree Classifier:

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| Model Building With Decision Tree from sklearn.tree import DecisionTreeClassifier deci = dtc = DecisionTreeClassifier()  dtc.fit(X\_train, y\_train)  DecisionTreeClassifier  DecisionTreeClassifier()  dtc.fit(X\_train, y\_train)  #Confusion Matrix For Training Data With Decision Tree confusion\_matrix(y\_train, y\_train\_pred) array([[203,54 ],  [ 43,98]], dtype=int64)  Model Building with from sklearn.naive\_bayes import GaussianNB  gnb = GaussianNB()  gnb.fit(X\_train, y\_train)  y\_pred = gnb.predict(X\_test)  eval\_classification(gnb) |

Model Validation and Evaluation Report:



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| Model | Classification Report | Accuracy | Confusion  Matrix |
| Random  Forest  Regressor |  | 84% | - |
| Decision  Tree  Regressor |  | 76% | - |
| Gradient  Boosting  Regressor |  | 78% | - |