

Telecom-Churn (Root Directory)

Data (Sub Directory)

 Clean-Data

 Raw-Data

 ANN_Validation

Data: This directory contain various datasets used in the project.

- **Raw-Data:** Contains raw data files, CSV files named churn-bigml-20.csv and churn-bigml-80.csv.
- **Clean-Data:** Contains cleaned and processed data files.
 - Dataset_with_feature_engineering: Processed dataset files after feature engineering.
 - X_train.csv, X_validation.csv, y_train.csv, y_validation.csv: Training and validation datasets with features engineered.
 - Dataset_without_Feature_engineering: Processed dataset files without feature engineering.
 - X_train.csv, X_validation.csv, y_train.csv, y_validation.csv: Training and validation datasets without feature engineering.
 - X_validation_F.csv, X_validation_NF.csv: Validation datasets specifically for feature-engineered (_F) and non-feature-engineered (_NF) models.

Models-Notebook (Sub Directory)

 Data_Preprocessing.ipynb

 Model_Evaluation.ipynb

 Model_Training.ipynb

Saved-Model (Sub Directory)

 DecisionTree-Models

 Linear-Models

 Logistic-Models

 NauralNetwork-Models

 RandomForest-Models

 XGBoast-Models

Model-Notebooks: This directory contains Jupyter notebooks for different stages of the machine learning workflow.

- **Data_Preprocessing.ipynb:** Notebook for data preprocessing tasks.
- **Model_Training.ipynb:** Notebook for training machine learning models.
- **Model_Evaluation.ipynb:** Notebook for evaluating the performance of trained models.
- **Saved-Model:** Contains directories for different types of trained models and their information.
 - **DecisionTree-Models:** Trained decision tree models.
 - DecisionTree_model_F.joblib, DecisionTree_model_NF.joblib: Decision tree models for feature-engineered and non-feature-engineered data.
 - model_info.csv: Information about the trained decision tree models.
 - **Linear-Models:** Trained linear regression models.
 - gradient_regression_model_F.joblib, gradient_regression_model_NF.joblib: Gradient regression models for feature-engineered and non-feature-engineered data.
 - linear_regression_model_F.joblib, linear_regression_model_NF.joblib: Linear regression models for feature-engineered and non-feature-engineered data.
 - model_info.csv: Information about the trained linear regression models.
 - **Logistic-Models:** Trained logistic regression models.
 - SGD_regression_model_F.joblib, SGD_regression_model_NF.joblib: Stochastic gradient descent regression models for feature-engineered and non-feature-engineered data.
 - logistic_regression_model_F.joblib, logistic_regression_model_NF.joblib: Logistic regression models for feature-engineered and non-feature-engineered data.
 - model_info.csv: Information about the trained logistic regression models.
 - **NauralNetwork-Models:** Trained neural network models (misspelled, should be "Neural").
 - NauralNetwork_F.joblib, NauralNetwork_NF.joblib: Neural network models for feature-engineered and non-feature-engineered data.
 - model_info.csv: Information about the trained neural network models.
 - **RandomForest-Models:** Trained random forest models.
 - RandomForest_model_F.joblib, RandomForest_model_NF.joblib: Random forest models for feature-engineered and non-feature-engineered data.
 - model_info.csv: Information about the trained random forest models.
 - Directories named random_forest_model_F and random_forest_model_NF seem to contain additional details or artifacts related to the trained random forest models.
 - **XGBoost-Models:** Trained XGBoost models.
 - XGBoast_model_F.joblib, XGBoast_model_NF.joblib: XGBoost models for feature-engineered and non-feature-engineered data.
 - model_info.csv: Information about the trained XGBoost models.