Model Development Phase Template

Date	15 July 2024
Team ID	739655
Project Title	Forecasting Feasts: A Culinary journey into Restaurant Revenue Prediction
Maximum Marks	5 Marks

Model Selection Report

There are several Machine learning algorithms to be used depending on the data you are going to process such as images, sound, text, and numerical values. The algorithms that you can choose according to the objective that you might have it may be Classification algorithms or Regression algorithms.

Example: 1. Linear Regression.
2. Logistic Regression.
3. Random Forest Regression / Classification.
4. Decision Tree Regression / Classification.

You will need to train the datasets to run smoothly and see an incremental improvement in the prediction rate.

Model Selection Report:

Model	Description	Hyperparameters	Accuracy
Logistic Regression	A linear approach to modeling the relationship between a dependent variable and one or more independent variables.	-	85%
Decision Tree	A decision support tool that uses a tree-like graph or model of decisions and their possible consequences.	Max depth, min samples split	87%
Random Forest	An ensemble learning method for classification and regression that operates by constructing multiple decision trees during training and outputting the mode of the classes (for classification) or mean prediction (for regression) of the individual trees.	Number of trees, max depth, min samples split	92%

Gradient Boosting	An ensemble technique that builds models sequentially, each correcting errors of the previous model, often used for regression and classification.	Learning rate, number of estimators, max depth	94%
Support Vector Machine (SVM)	A supervised learning model used for classification and regression by finding the hyperplane that best divides a dataset into classes.	Kernel, C, gamma	89%
Neural Network	A series of algorithms that attempt to recognize underlying relationships in a set of data through a process that mimics the way the human brain operates.	Number of layers, activation function, optimizer	90%