Model Development Phase Template

Date	08 JULY 2024
Team ID	SWTID1720451040
Project Title	Ecommerce Shipping Prediction Using Machine Learning
Maximum Marks	6 Marks

Model Selection Report:

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

Model Selection Report:

Model	Description	Hyperparameters	Performance Metric (e.g., Accuracy, F1 Score)
Logistic Regression	a statistical technique that simulates the connection between a binary dependent variable and characteristics.	Learning rate, Batch size, No. of Iterations	64%

Support Vector Machine (SVM)	A binary linear classifier that is not probabilistic. The separation hyperplane that optimizes the margin between the two classes is found using SVMs.	Kernel function, regularization parameter,Kern el=”linear”	66%
X-Gradient Boosting Machine	**a machine learning model that generates a stage-wise prediction model. It creates a strong learner by combining weak learning models.**	**Number of boosting stages, learning rate**	**69%**
Random Forest	**Using random feature and data sample selections, multiple decision trees are trained as part of the ensemble tree learning**	Number of trees in the forest, maximum depth of each tree,N_Estimators=’ 7’	**67%**

	technique. It's sturdy against overfitting and able to handle a lot of features.	,Criteria=”Entropy”,Random_state=’0’	
Artificial Neural network	**Since every neuron processes information and sends it to neurons in later layers, the network can discern complex patterns and make decisions based on incoming data.**	The no of neurons,Learning rate,Batch size,Knobs and Switches,Kernel_initializer=”Random_Uniform”,Activation=”R elu”	**67%**
K-Nearest Neighbour	**Whereas traditional parametric models derive explicit equations from data, KNN relies its predictions on the similarity between newly added and previously**	The no of Neighbours,Batch size,N_neighbours=’7’	**65%**

	labeled data points.		