Model Development Phase Template

Date	15 March 2024
Team ID	LTVIP2024TMID25012
Project Title	Predictive Modeling for H1B Visa Approval 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)
Random Forest	An ensemble learning method that constructs multiple decision trees for improved accuracy and robustness.	n_estimators: 100, max_depth: 10, random_state: 42	Accuracy: 93.49%
Support Vector Machine (SVM)	A supervised learning model that finds the hyperplane that best separates the classes in high-dimensional space.	C: 1.0, kernel: 'rbf', gamma: 'scale'	F1 Score: 0.75

Logistic Regression Accuracy: 88.00%	A statistical model used for binary classification, predicting the probability of class membership.	solver: 'liblinear', C: 1.0	Accuracy: 88.00%