

# Mode Development Phase Template

## 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 Name	Description	Accuracy Score
<b>Logistic Regression</b>	A statistical model used for binary classification. It predicts the probability of a target variable by fitting data to a logistic function (sigmoid).	0.9919
<b>Decision Tree Classifier</b>	A non-parametric model that splits the data into branches based on decision rules from input features. Easy to interpret but prone to overfitting.	1.0000
<b>Random Forest Classifier</b>	An ensemble of multiple decision trees that reduces overfitting and improves generalization by averaging predictions. Robust and accurate.	1.0000
<b>Gaussian Naive Bayes</b>	A simple and fast probabilistic classifier based on Bayes' theorem. Assumes features are normally distributed and independent.	0.9798
<b>Support Vector Classifier</b>	A powerful model that finds the optimal separating hyperplane for classification. Effective in high-dimensional spaces but slower on large datasets.	0.9395
<b>Gradient Boost Classifier</b>	Builds models in a stage-wise fashion. Each new model corrects the errors of the previous one. Offers high performance but can be sensitive to noise.	1.0000
<b>XGBoost</b>	A highly efficient and scalable implementation of gradient boosting. Supports regularization to prevent overfitting and is widely used in competitions.	1.0000