Model Development Phase Template

Date	28 April 2024
Team ID	738327
Project Title	Online Payments Fraud Detection 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)
Model 1	Machine learning fights online payment fraud. It analyzes past transactions (fraudulent and legitimate) to learn patterns. New transactions are compared to these patterns to flag suspicious activity, making payments safer for everyone.	Machine learning for fraud detection needs fine-tuning beyond the algorithm itself. Hyperparameters like learning rate and number of trees (for some algorithms) are adjusted to optimize the model. This balancing act ensures the model catches fraud without flagging too many legitimate transactions.	While accuracy is common, fraud detection uses metrics that consider cost balance. A good option is **AUC-ROC (Area Under the Receiver Operating Characteristic Curve)**. It measures how well the model distinguishes fraud from legitimate transactions, even with imbalanced data (more legitimate transactions than fraudulent ones).