**Model Development Phase**

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| Date | 5 July 2025 |
| Team ID | SWTID1749620997 |
| Project Title | Online Payment Fraud Detection |
| 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:**

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| **Model** | **Description** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| Random Forest Classifier | An ensemble method using multiple decision trees and majority voting. | - | Accuracy (Random Forest): 0.9996956180525214 |
| |  | | --- | | Decision  Tree  Classifier |  |  | | --- | |  | | A non-parametric supervised learning method using a tree-like model | - | Accuracy (Decision Tree): 0.9997092392756443 |
| Extra Trees Classifier | Similar to Random Forest, but more randomized for split selection. | **-** | Accuracy (Extra Trees): 0.999676234004231 |
| LinearSVC | Linear classifier optimized for large datasets using a linear kernel SVM. | max\_iter=10000 | Accuracy (LinearSVC): 0.9976660558071989 |
| XGBoost Classifier | Gradient boosting algorithm optimized for speed and performance. | **-** | Accuracy (XGBoost): 0.9996940463729302 |