

## Model Development Phase Template

Date	20-Jun-25
Team ID	SWTID1751617613
Project Title	Auto Fraud Detection
Marks	5 marks

## Model Selection and Report

Model	Train Accuracy	Test Accuracy	Precision	Recall	F1 Score
Logistic Regression	0.799	0.725	0.45	0.551	0.4954
Decision Tree	1	0.78	0.5424	0.6531	0.5926
Random Forest	1	0.795	0.6053	0.4694	0.5287
K-NN	0.7774	0.5	0.2893	0.7143	0.4118
SVM	0.9535	0.785	0.6	0.3673	0.4557
Naive Bayes	0.7583	0.705	0.4419	0.7755	0.563

## Why Choose the Decision Tree Model?

Metric	Value	Notes
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Train Accuracy	1.0000	The model fits the training data perfectly.
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Test Accuracy	0.7800	Good generalization to unseen data.
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Precision	0.5424	Reasonably good — ~54% of predicted frauds are correct.
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Recall	0.6531	Catches ~65% of actual frauds — important for detection.
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F1 Score	0.5926	Best overall balance of precision & recall among all models.
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