Model Development Phase Template

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| Date | 03 October 2024 |
| Team ID | LTVIP2024TMID24963 |
| Project Title | Time Series Analysis For Bitcoin Price Prediction Using Prophet |
| 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.

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| **Model** | **Description** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| Random Forest | Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance Time Series Analysis For Bitcoin Price Prediction Using Prophet | n\_estimators  max\_depth  min\_samples\_split | Accuracy score = 98% |
| Decision Tree | Simple tree structure; interpretable, captures non-linear relationships, suitable for initial insights into loan approval patterns. | max\_depth  min\_samples\_leaf | Accuracy score = 96% |
| KNN | Classifies based on nearest neighbors; adapts well to data patterns, effective | |  | | --- | |  |  |  | | --- | | max\_features | | Accuracy score = 98% |