

Model Development Phase Template

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| Date | 20 Nov 2024 |
| Team ID | 739720 |
| Project Title | Time Series Analysis for Bitcoin Price Prediction using Prophet |
| Maximum Marks | 5 Marks |

Model Selection Report

In the model selection report for the Bitcoin price prediction project, multiple time series models were evaluated based on forecasting accuracy, interpretability, handling of seasonality/trend, and ease of implementation. Below are two considered models:

Model Selection Report:

| Model | Description |
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| Model 1: Prophet | Prophet is a robust and flexible time series forecasting tool developed by Facebook. It handles daily, weekly, and yearly seasonality automatically and is well-suited for financial data like Bitcoin prices. It also manages missing data and outliers effectively. It offers interpretability and is easy to implement with minimal tuning. |
| Model 2: ARIMA (AutoRegressive Integrated Moving Average) | ARIMA is a classic statistical model used for time series forecasting. While it requires stationary data and manual tuning of parameters (p, d, q), it performs well for linear trends. However, it is less effective for capturing complex seasonality or non-linear trends compared to Prophet. |