Time Series Analysis with Cryptocurrency– Power BI Project Report

1. Introduction
This project focuses on time series analysis of cryptocurrency data using Power BI. The objective is to analyze historical price trends, market performance, and key indicators to support data-driven insights.

2. Problem Statement
Cryptocurrency markets are highly volatile and difficult to analyze using raw data. This project aims to simplify analysis through interactive dashboards and visual analytics.

3. Objectives
- Analyze historical cryptocurrency price trends
- Identify growth patterns and volatility
- Enable interactive filtering and comparison
- Provide clear visual insights for decision-making

4. Dataset Description
The dataset contains historical cryptocurrency data including date, open price, close price, high, low, volume, and market capitalization. The dataset was sourced from publicly available platforms.

5. Tools & Technologies Used
- Power BI
- Microsoft Excel / CSV dataset
- Time Series Analysis techniques
- GitHub for project hosting

6. Methodology
1. Data Collection
2. Data Cleaning & Transformation
3. Time Series Analysis
4. Dashboard Development
5. Insights Generation

7. Dashboard Features
- Interactive filters (Cryptocurrency, Date Range)
- Line charts for price trends
- KPIs for market performance
- Comparative analysis across time periods

8. Dashboard Visualization
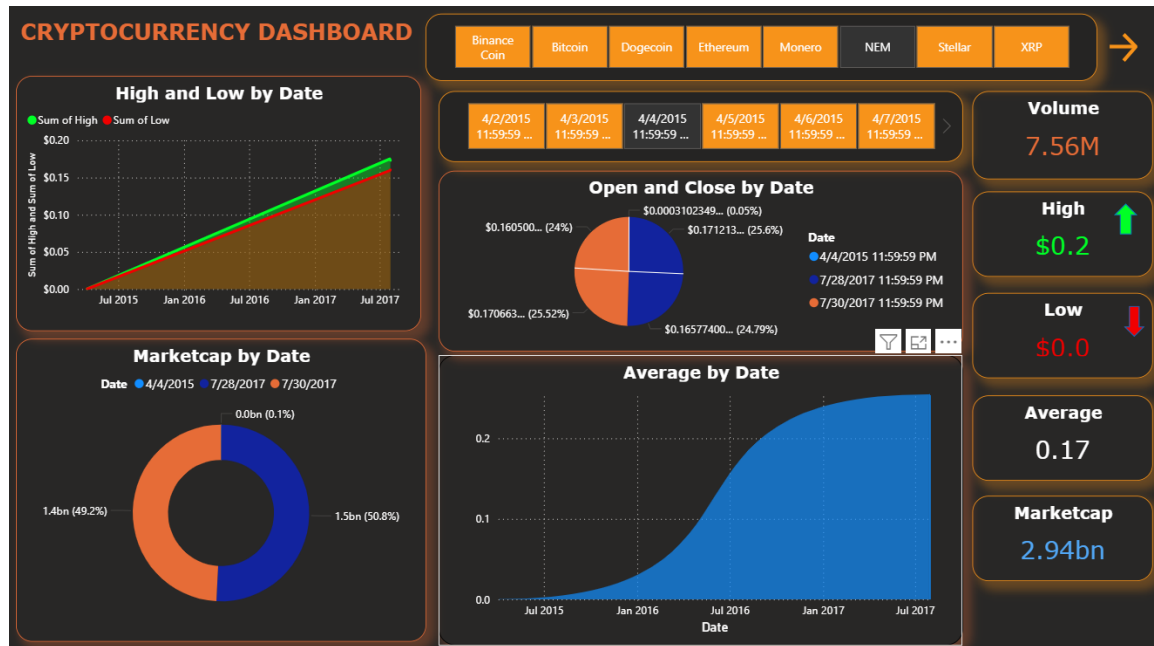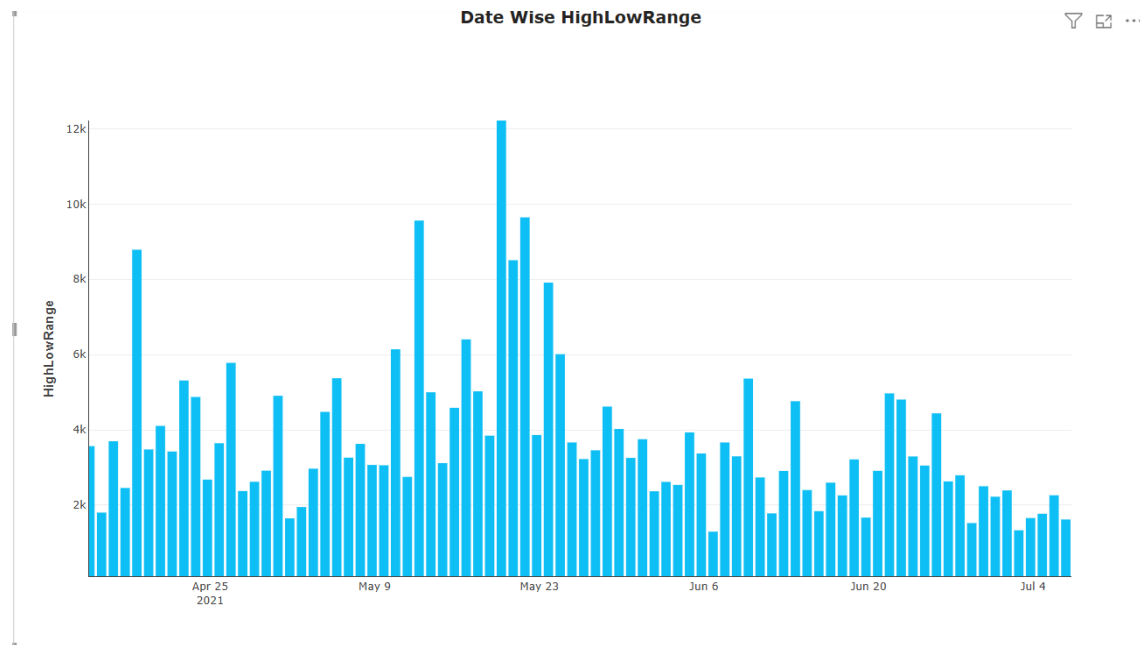
Figure 1 Overview of Dashboard

Figure 2 Trends Analysis

Figure 3 Plotly Analysis

9. Results & Insights

The dashboard reveals significant volatility patterns, growth phases, and seasonal trends. Users can identify peak and low-price periods and compare multiple cryptocurrencies effectively.

10. Conclusion

This project demonstrates the effectiveness of Power BI in analyzing time series cryptocurrency data. The dashboard provides meaningful insights and supports informed decision-making.

11. Future Enhancements

- Add real-time data integration
- Include predictive forecasting models
- Expand analysis to more cryptocurrencies