Project Title

Bitcoin Trading Data Analysis

Scope of the Project

The project scope involves developing a machine learning tool to analysis and predict BTCUSD (Bitcoin to US Dollar) exchange rates for effective market prediction and trading strategy formulation.

Project Description

1. Data Collection : From Yahoo Finance.

2. Data Preprocessing : Scaling the data, Spilt the Data

3. Model Development : Utilizing Sequential LSTM Model

4. Model Evaluation & Optimization

5. Visualization & Presentation

6. Documentation & Code Structuring

7. Project Delivery and Future Work

Research Questions to Answer

1

How can a machine learning tool be contributing to more accurate market predictions ?

2

How can the incorporation of statistical and trend analysis within the development of a machine learning tool ?
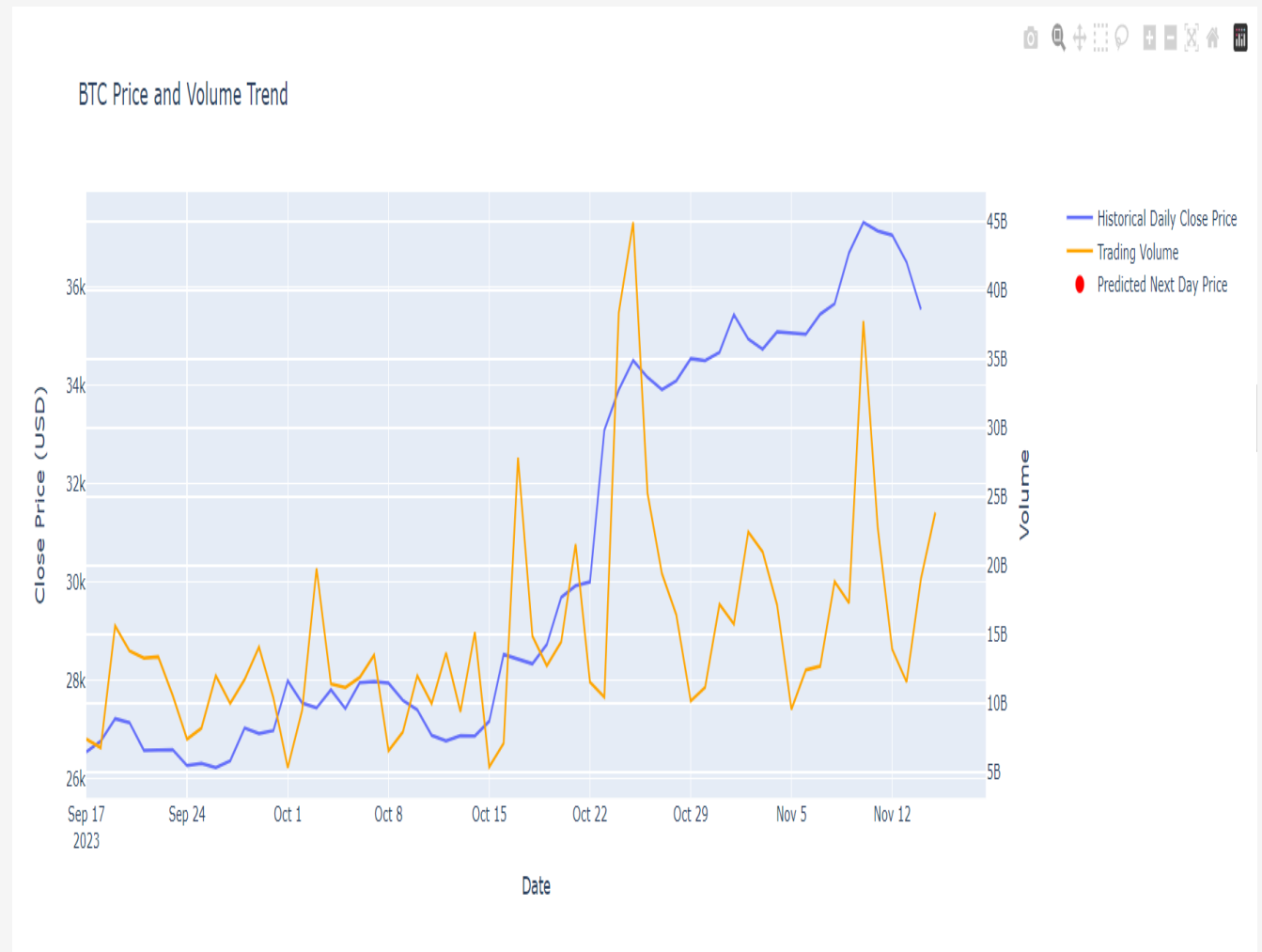
3

Model Evaluation and Refinement:

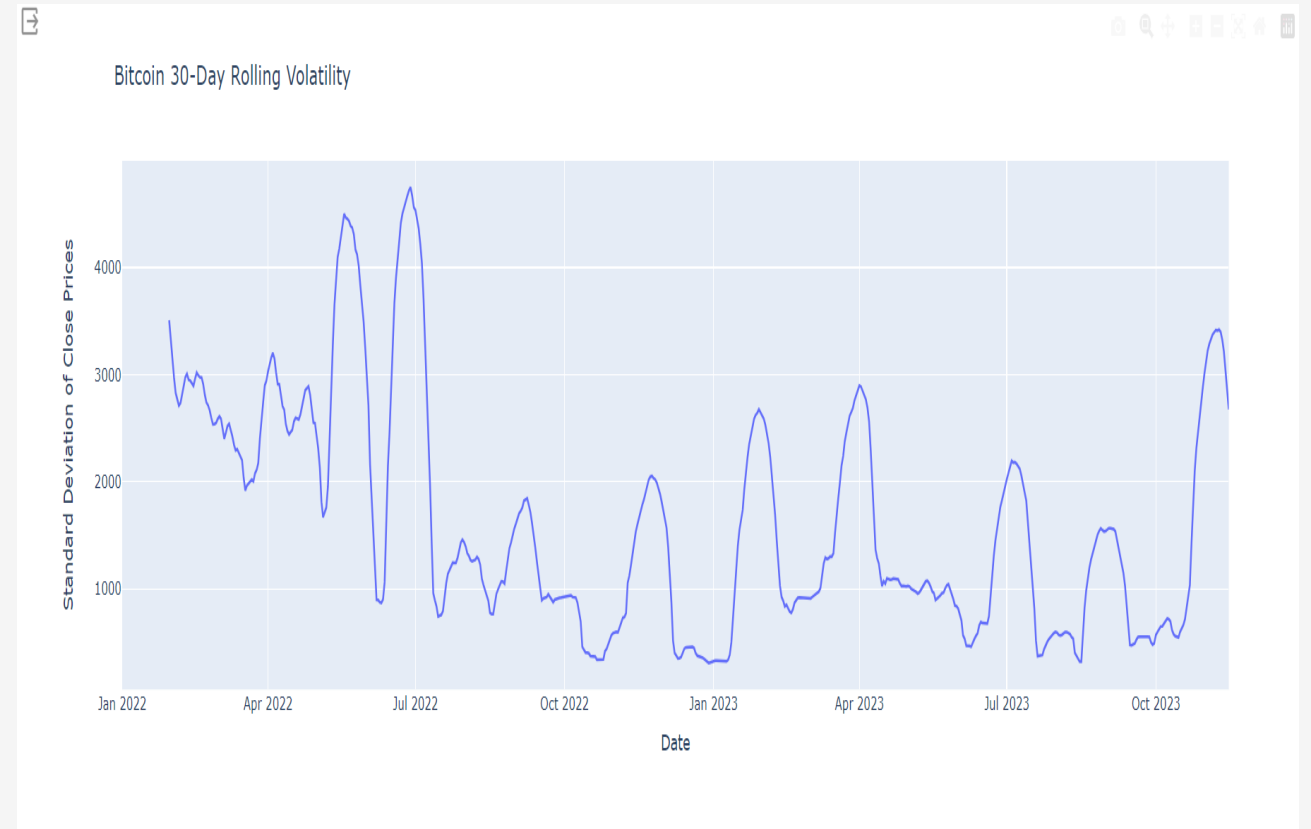(considerations … to trust model …r_sq, mse)

Dataset to be used

- **Source:** Bitcoin historical data from Yahoo Finance.

- **Timeframe:** January 1,2022 to November 15,2023.

- **Features :** Open, High, Low, Close and Volume Prices of Bitcoin.
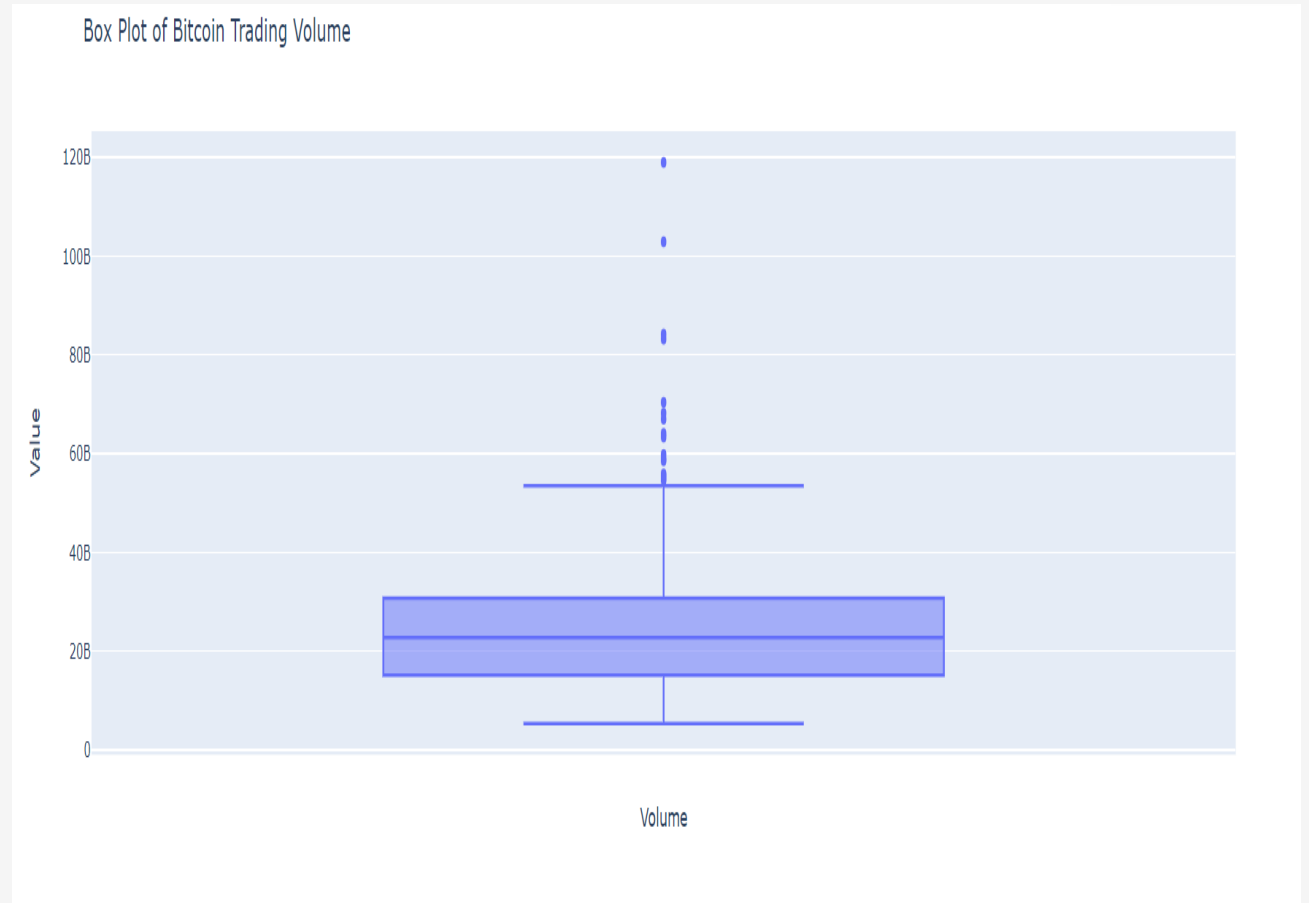
Analysis on BTC Price and Volume Trend

Analysis on Bitcoin 30-Day Rolling Volatility

Bitcoin 30-Day Rolling Volatility

Analysis on Bitcoin Trading Volume

Box Plot of Bitcoin Trading Volume

Analysis on Correlation Heatmap

Correlation Heatmap