

Cryptocurrency Price Prediction

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Abstract

A brief summary of your project, highlighting the objective (predicting cryptocurrency prices), methods used (e.g., LSTM, SVM, ARIMA), tools (Python, Streamlit, etc.), and key results. Keep it concise and clear

Keywords

Cryptocurrency, Price Prediction, Machine Learning, LSTM, SVM, ARIMA, Time Series Forecasting.

INTRODUCTION

Introduce the importance of cryptocurrency, the need for accurate price prediction, challenges in forecasting financial time series data, and how machine learning helps in solving these challenges.

The rise of cryptocurrencies has been a financial phenomenon over the past decade, with thousands of cryptocurrency options, this new market has become increasingly difficult to navigate. One of the primary challenges in this new market is to predict the price fluctuations of cryptocurrency.

LITURATURE SURVEY/BACKGROUND

Summarize previous works:

Methods used in past studies (LSTM, GRU, SVM, ARIMA) Data sources (Coin Market Cap, Binance, etc.) Gaps in existing systems (e.g., low accuracy, overfitting, real-time limitations)

PROPOSED WORK/SYSTEM

Overview

General description of your system - data pipeline, prediction model, and interface.

Data Collection

Explain where and how you collect historical price data (e.g., APIs, CSV files).

Preprocessing

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Steps like data cleaning, normalization, feature engineering, etc.

Model Selection

Describe the models used:

- LSTM (Long Short-Term Memory)
- SVM (Support Vector Machine)
- ARIMA (if used)

Model Training and Evaluation

Split data (train/test), evaluation metrics (RMSE, MAE, accuracy, etc.)

System Architecture

Block diagram showing data flow from input to prediction and display (e.g., Data \rightarrow Preprocessing \rightarrow Model \rightarrow Output Interface).

Tools and Technologies

Python, Streamlit, Scikit-learn, Kera /TensorFlow, Matplotlib, etc.

RESULT AND DISCUSSION

Present model performance comparison in tables and charts. Discuss how well each model predicted prices, include graphs (e.g., predicted vs actual prices).

CONCLUSION

The cryptocurrency price prediction project effectively demonstrated the use of machine learning (LSTM) to forecast future prices with high accuracy. It achieved reliable results using real-time data, passed all testing stages, and delivered a functional, secure, and user-friendly prediction system. This project provides a strong foundation for further enhancements and real-world financial applications.

REFERECNES

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