iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 11 **Issue:** VI **Month of publication:** June 2023

DOI: https://doi.org/10.22214/ijraset.2023.54038

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 11 Issue VI Jun 2023- Available at www.ijraset.com

Bitcoin Price Prediction Using LSTM

Mrs. Ch. Lakshmi Kumari[1], Kavya Chukkannagari[2], Supraja Ketireddy[3], Sai Kiran Kairoju[4]
[1, 2, 3, 4]*Department of Information Technology, Mahatma Gandhi Institute of Technology*

Abstract: Bitcoin can be considered an important factor while maintaining current stocks in the market. Therefore, predicting and managing stocks effectively will lead to better outcomes. We are aiming to predict Bitcoin price in the market using some machine learning algorithms. By using area under curve and accuracy are the important features for calculating the predictive analysis of the model over any period of time. We are predicting the price for 81 days using 30 days data and then anticipates the next day price. Here, we are dividing the data set into test data & training data.

I. INTRODUCTION

Machine Learning have become integral parts of various domains. It is used for some of the key applications such as prediction, fraud detection etc.., These techniques enable computers to understand the hidden patterns from the data and use them predictions without the need of explicit programming. Crypto analysis is foremost utilized procedures in Bitcoin stock markets and information gathering (Data Sets) have been used to control the stocks in the market. we use Recurrent Neural Network Learning Model (RNN) on the basis of LSTM.

It is very useful for predicting Bitcoin price in the market. This helps the market that how the stocks are decreasing and increasing day to day and it improves the efficiency of the stocks.

II. RELATED WORK

Bitcoin, one of the representative virtual currencies, has attracted the attention of users in recent years in a novel mode. Bitcoin, which uses blockchain as its underlying technology, has strong security features that anonymize users' identities and protect their personal data.

However, some criminals also use Bitcoin for some illegal activities that pose serious security threats to society. Therefore, it is necessary to understand the current trend of Bitcoin and strive to de-anonymize it. This article introduces and implements a system to analyse: Blockchain data and network traffic data. Simulate the Bitcoin P2P protocol to rank Bitcoins by IP address while solving blockchain data and analysing Bitcoins by Bitcoin address. Finally, we use our system to analyse current trends, track their transactions, create statistics about bitcoin transactions and addresses, track transaction flows, track some bitcoin addresses within IPs. anonymize.

A. Bitcoin Price Prediction- an Analysis of Various Regression Methods

This paper identifies trust factor and rewarding nature of bitcoin system, and analyzes bitcoin features which may facilitate bitcoin to emerge as a universal currency.

Paper presents the gap between proposed theoretical-architecture and current practical-implementation of bitcoin system in terms of achieving decentralization, anonymity of users, and consensus. Paper presents three different ways in which a user can manage bitcoins.

We attempt to identify the security risk and feasible attacks on these configurations of bitcoin management. We have shown that not all bitcoin wallets are safe against all possible types of attacks. Bitcoin core is only safest mode of operating bitcoin till date as it is secure against all feasible attacks, and is vulnerable only against block-chain rewriting.

B. Bitcoin Price Prediction using Decision Tree and Regression Techniques

In this paper, we attempt to predict the Bitcoin price accurately taking into consideration various parameters that affect the Bitcoin value. For the first phase of our investigation, we aim to understand and identify daily trends in the Bitcoin market while gaining insight into optimal features surrounding Bitcoin price.

Our data set consists of various features relating to the Bitcoin price and payment network over the course of five years, recorded daily. For the second phase of our investigation, using the available information, we will predict the sign of the daily price change with highest possible accuracy.

©IJRASET: All Rights are Reserved

C. Prediction of Bitcoin Price Change using Neural Networks

Bitcoin, one major virtual currency, attracts users' attention by its novel mode in recent years. With blockchain as its basic technique, Bitcoin possesses strong security features which anonymizes user's identity to protect their private information. However, some criminals utilize Bitcoin to do several illegal activities bringing in great security threat to the society. Therefore, it is necessary to get knowledge of the current trend of Bitcoin and make effort to
de-anonymize. In this paper, we put forward and realize a system to analyze Bitcoin from two aspects: blockchain data and network traffic data. We resolve the blockchain data to analyze Bitcoin from the point of Bitcoin address while simulate Bitcoin P2P protocol to evaluate Bitcoin from the point of IP address. At last, with our system, we finish analyzing its current trends and tracing its transactions by putting some statistics on Bitcoin transactions and addresses, tracing the transaction flow and de-anonymizing some Bitcoin addresses to IPs.

III. PROPOSED ARCHITECTURE

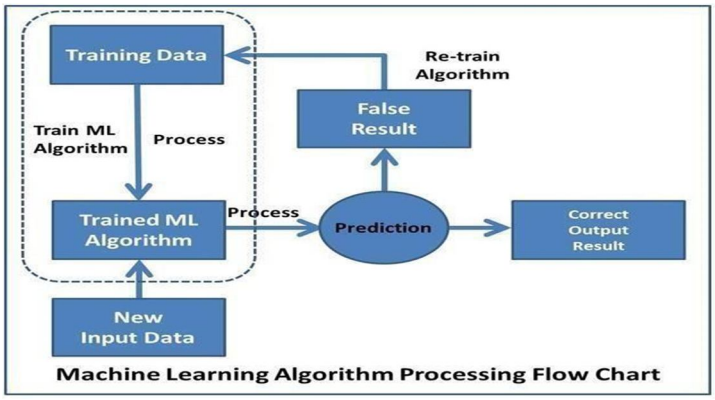


Fig. 1: System Architecture

1) Open tkinter box.
2) Upload the dataset.
3) Preprocess the data.
4) Run LSTM.
5) Run Multi LSTM.
6) Compare LSTM & Multi LSTM.

IV. PROPOSED ALGORITHM

1) *Long Short Term Memory (RNN):* It is a variety of RNN. It used to solve sequential prediction problems.

V. RESULTS

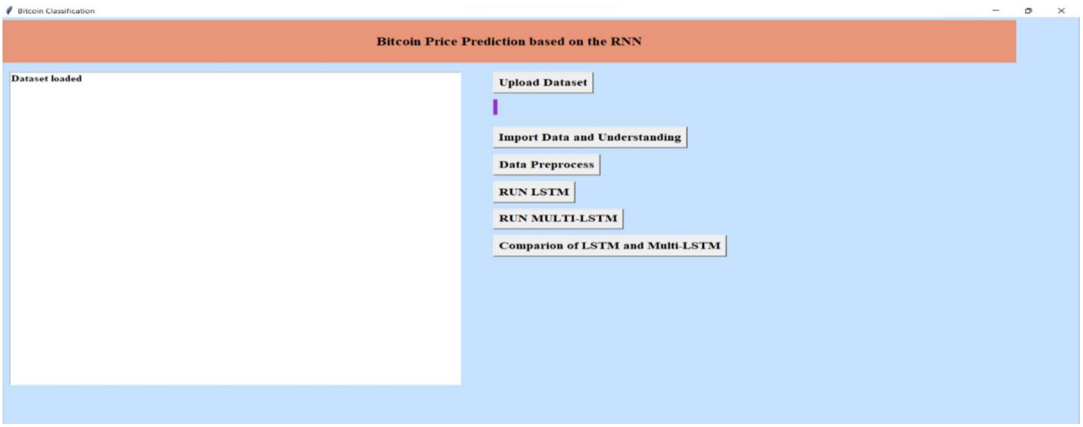


Fig. 2: Loading dataset

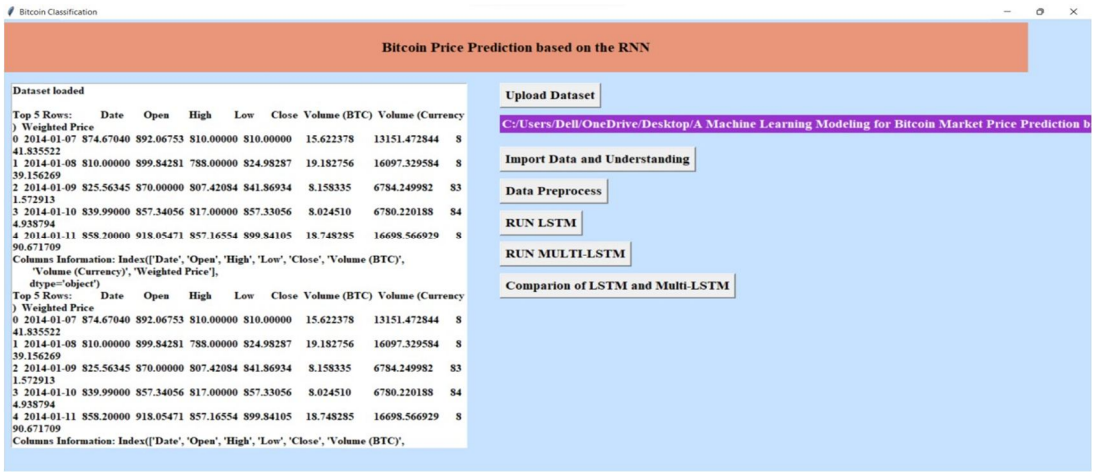


Fig. 3: Tkinter box after loading dataset

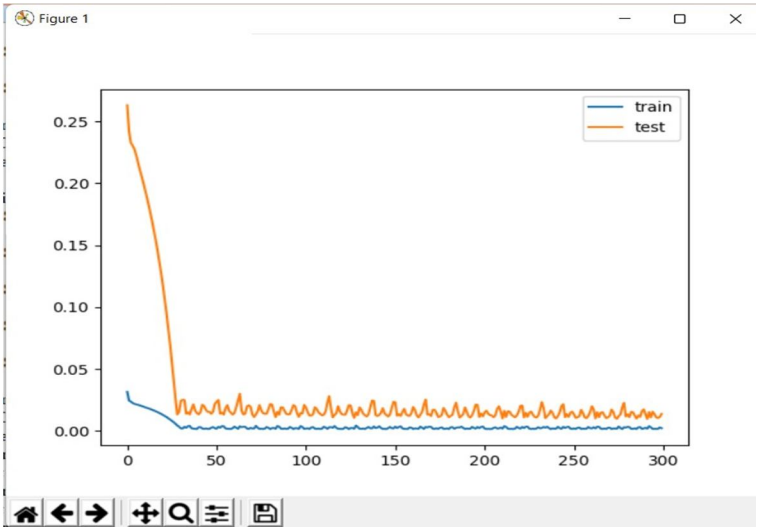


Fig. 4: Graph between training and test data



Fig. 5: Correlation between different features

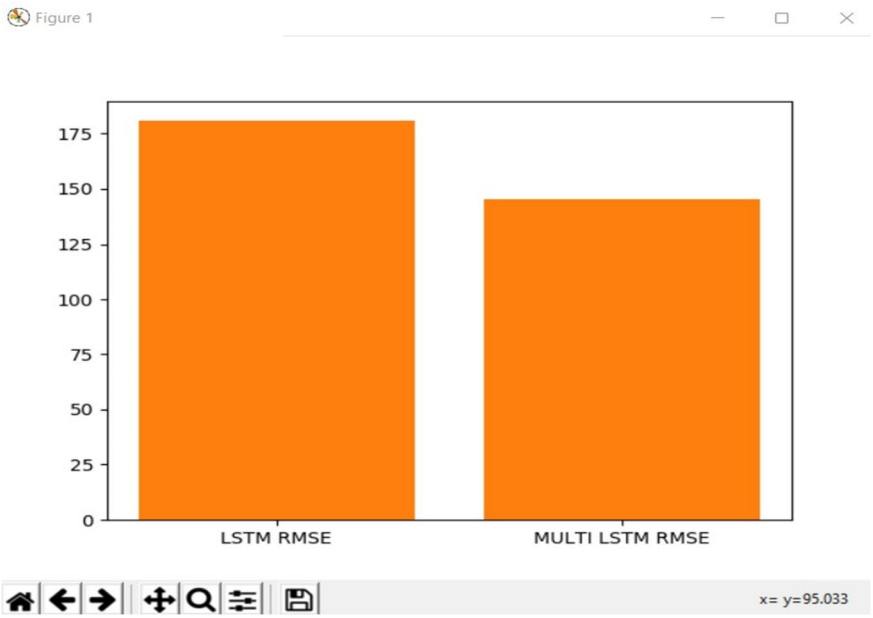
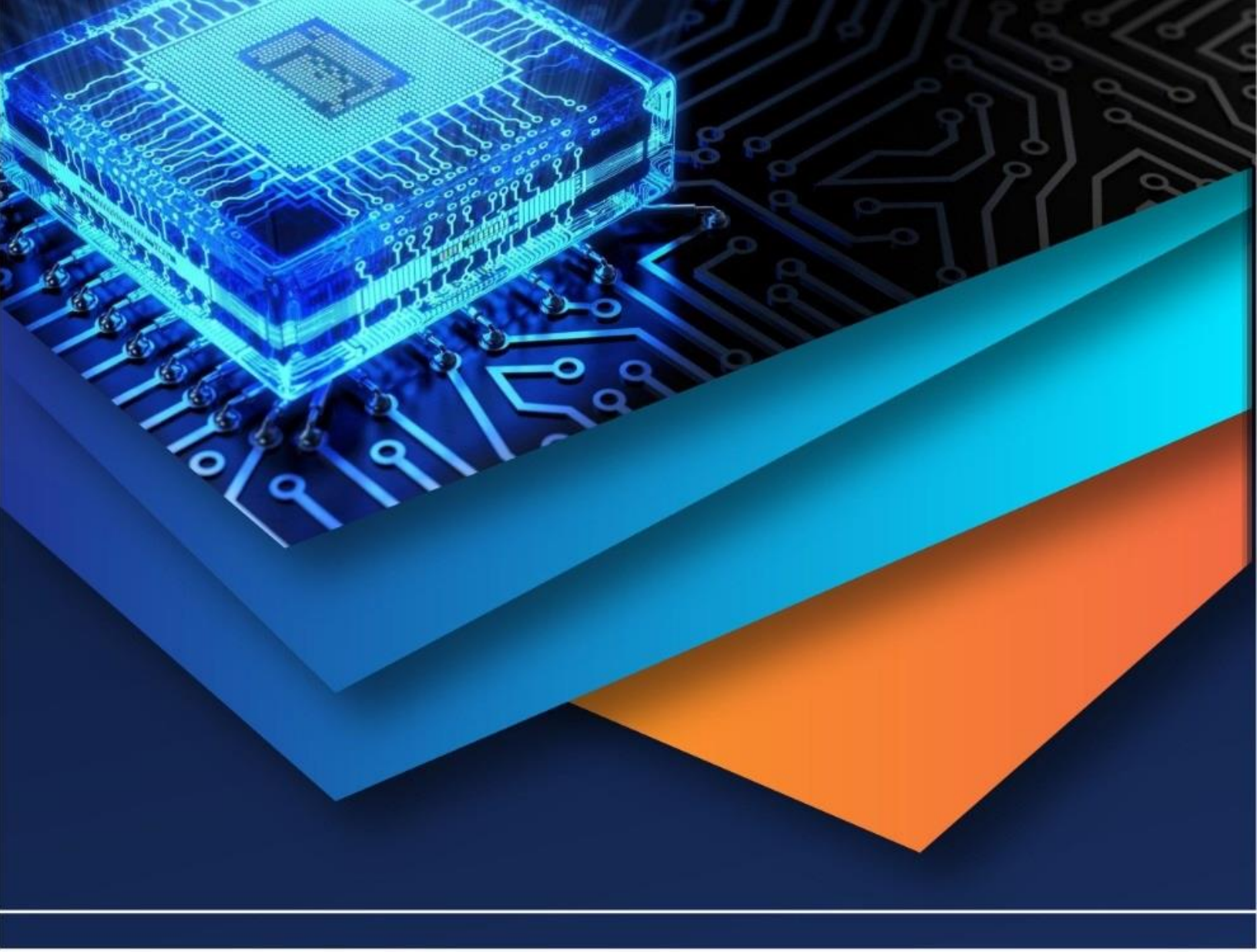


Fig. 6: Graph showing comparison between LSTM and Multi LSTM based on RMSE

VI. CONCLUSION

In this project, we considered previous Bitcoin transactions in which price and timestamps are the attributes used to predict the bitcoin price for future.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)