Project Report

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Topic:

Bitcoin Closing Price Prediction

Ideas:

Virtual currencies are a form of cryptocurrency which is an impressive technical achievement in digital marketing, nevertheless. Virtual currencies live on, and they couldn't fully replace fiat or conventional currencies. In the current study, we are trying to show an interesting new perspective from the view of economics questions surrounding currency governance, the characteristics of money, political economy of financial intermediaries, and the nature of currency computation.

Experiments :

For calculating the closing price I have taken the price of the previous seven days as my feature and predict the price of current day on the basis of price of the previous 7 days and I have tried 3 algorithms for predicting the price and it is behaving best on the Linear Regression.

There are various classification algorithms present out of which we shall implement the following-:

1. Linear regression
2. LSTM
3. Xgboost Regressor

Exploring the dataset and pre-processing

On counting the number of NULL values in the train dataset , it was found that there are no NULL values present.

Linear Regression: Linear Regression is a machine learning algorithm based on supervised learning. It performs a regression task. Regression models a target

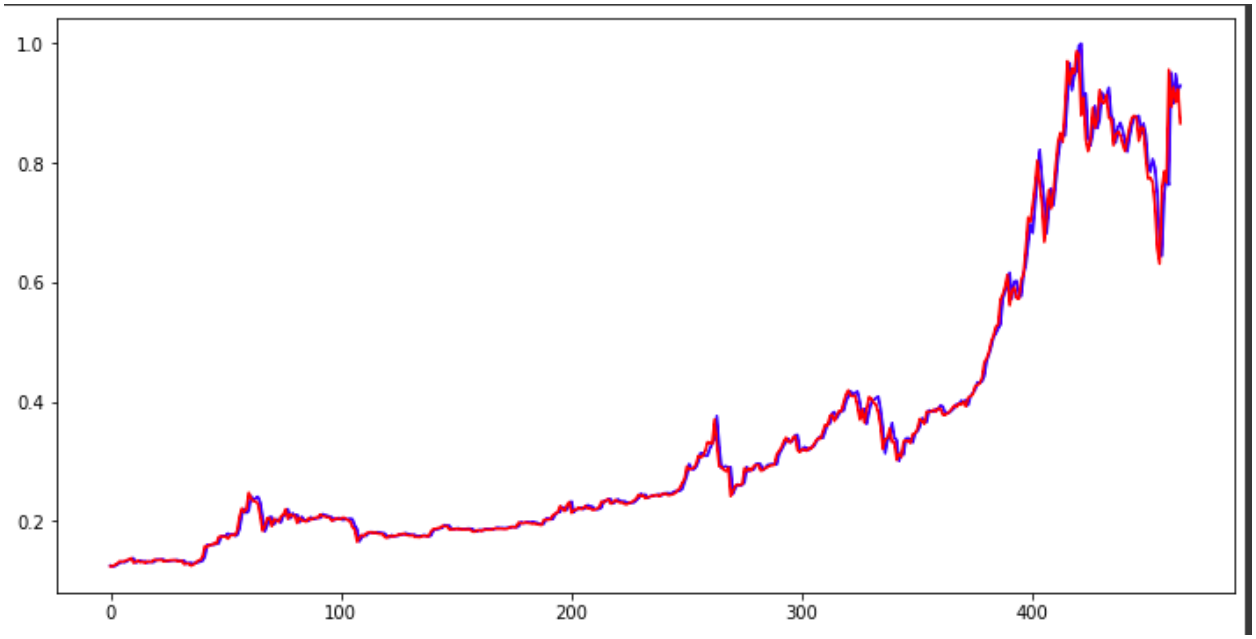
prediction value based on independent variables. It is mostly used for finding out the relationship between variables and forecasting.

Result of Linear regression:

R-2 SCORE=0.9922

Graph: Red line represents predicted value and blue line represents Y_test.

By the graph and R-2 score we can see that this model is behaving very well for predicting the closing price of bitcoin.

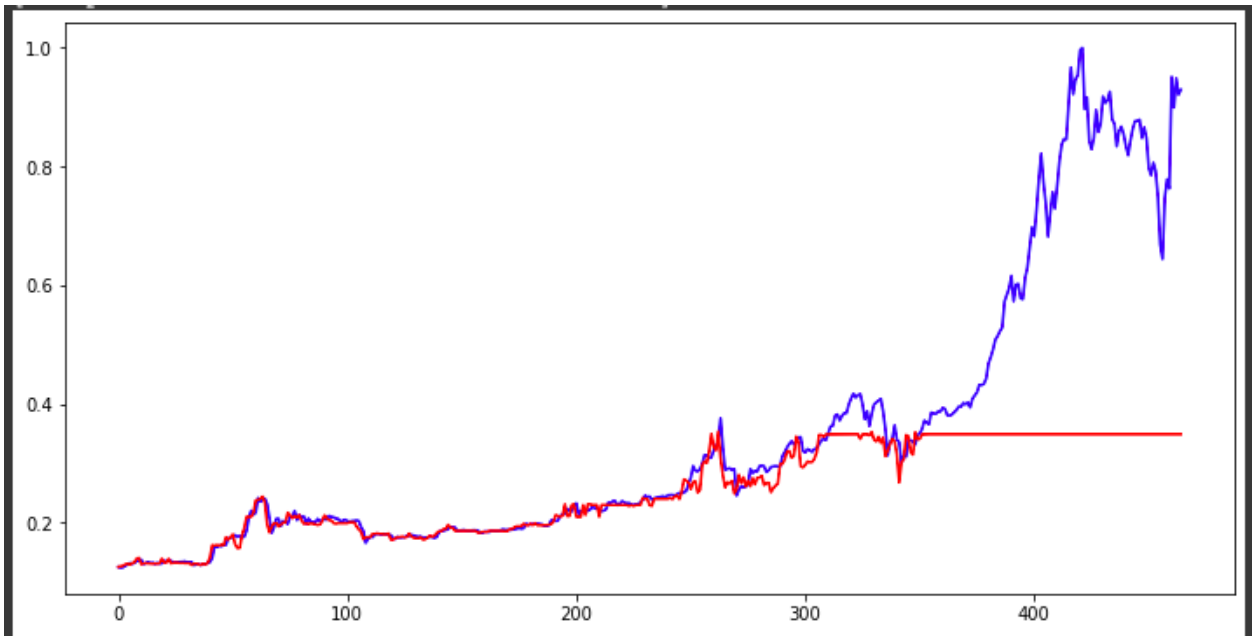


Result of XGB Regression:

XGBoost is an ensemble learning method. Sometimes, it may not be sufficient to rely upon the results of just one machine learning model. Ensemble learning offers a systematic solution to combine the predictive power of multiple learners. The resultant is a single model which gives the aggregated output from several models.

R-2 SCORE=0.27437

Graph: Red line represents predicted value and blue line represents Y_test.

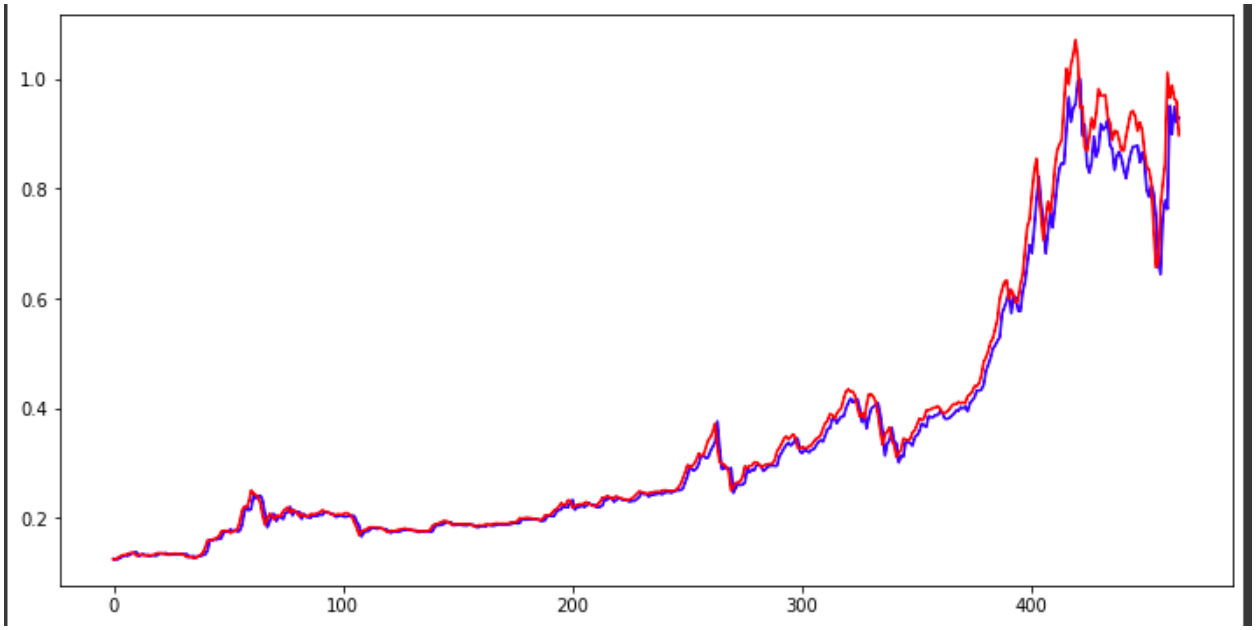


Result of LSTM(long short term memory):

Long Short-Term Memory (LSTM) networks are a type of recurrent neural network capable of learning order dependence in sequence prediction problems. This is a behavior required in complex problem domains like machine translation, speech recognition, and more. LSTMs are a complex area of deep learning.

R-2 SCORE=0.9831

Graph: Red line represents predicted value and blue line represents Y_test.


1.0
0.8
0.6
0.4
0.2
0
100
200
300
400