A Minor Project Report

On

BITCOIN PRICE PREDICTION USING MACHINE LEARNING

Submitted in partial fulfilment of requirements for the award of the Degree of

BACHELOR OF TECHNOLOGY

in

ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Under the guidance of

MR.R.RAJAGURU
(HEAD OF THE DEPATMENT / AI)

Submitted By

R DHARANI DHARAN 927621BAD009

P SAIPRASHANNA 927621BAD043

T THANISH SURIYA 927621BAD058

DEPARTMENT OF ARTIFICIAL INTELLIGENCE

AND DATA SCIENCE

M.KUMARASAMY COLLEGE OF ENGINEERING

(Autonomous)

KARUR – 639113

NOV 2023

M.KUMARASAMY COLLEGE OF ENGINEERING

(Autonomous Institution affiliated to Anna University, Chennai)

BONAFIDE CERTIFICATE

Certified that this project report **"BITCOIN PRICE PREDICTION USING MACHINE LEARNING"** is the bonafide work of **"R.DHARANI DHARAN[927621BAD009], P.SAI PRASHANNA [927621BAD043], T.THANISH SURIYA [927621BAD058]** who carried out the project work under my supervision.

Signature

DR. R.RAJAGURU

HEAD OF THE DEPARTMENT,

Department of Artificial Intelligence and Data Science,

M.Kumarasamy College of Engineering,

Thalavapalayam, Karur-639113.

Signature

Dr. R.RAJAGURU

HEAD OF THE DEPARTMENT,

Department of Artificial Intelligence and Data Science,

M.Kumarasamy College of Engineering,

Thalavapalayam, Karur-639113.

ABSTRACT

The purpose of this study is to find out with what accuracy the direction of the price of Bitcoin can be predicted using machine learning methods. This is basically a time series prediction problem. While much research exists surrounding the use of different machine learning. Techniques for time series prediction, research in this area relating specifically to Bitcoin is lacking. In addition, Bitcoin as a currency is in a transient stage and as a result is considerably more volatile than other currencies such as the USD. Interestingly, it is the top performing currency four out of the last five years. Thus, its prediction offers great potential and this provides motivation for research in the area. As evidenced by an analysis of the existing literature, running machine learning algorithms on a GPU as opposed to a CPU can offer significant performance improvements. This is explored by benchmarking the training of the RNN and LSTM network using both the GPU and CPU This provides a solution to the sub research topic. Finally in analysing the chosen dependent variables, each variables importance is assessed using a random forest algorithm. In addition, the ability to predict the direction of the price of an asset such as Bitcoin offers the opportunity for profit to be made by trading the asset.

CONCLUSION

In conclusion, predicting Bitcoin prices using machine learning (ML) is a complex and challenging task. While ML models can leverage historical data, technical indicators, and market sentiment to make predictions, the inherent volatility and unpredictability of the cryptocurrency market pose significant

obstacles. The accuracy of Bitcoin price predictions depends on various factors, including the quality and quantity of data, the choice of features, and the dynamic nature of market conditions.

It is important to note that past performance does not guarantee future results, and the cryptocurrency market is influenced by a myriad of external factors such as regulatory developments, macroeconomic trends, and global events. ML models may provide valuable insights, but they should be used cautiously and in conjunction with a comprehensive understanding of the market dynamics.

.