

ABSTRACT

Bitcoin is a digital asset and a payment system that is used as a form of Internet currency. It allows for anonymous payment from one person to another and is therefore a preferred payment method for criminal actions on the Internet. Recently Bitcoin has received a lot of attention from the media and the public due to its recent price hike. The objective of this paper is to determine the predictable price direction of Bitcoin price. Machine learning models can likely give us the insight we need to learn about the future of Cryptocurrency. It will not tell us the future but it might tell us the general trend and direction to expect the prices to move. The proposed model is to build a machine learning model where the data is used to made to learn about the pattern in the dataset and the machine learning algorithm is used to predict the bitcoin price.

TABLE OF CONTENTS

CHAPTER No.	TITLE	PAGE No
	ABSTRACT	i
	LIST OF FIGURES	v
1	INTRODUCTION	1
	1.1 Objective of the project	1
	1.1.1 Necessity	1
	1.1.2 Software development method	1
	1.1.3 Layout of the document	1
	1.2 Overview of the designed project	2
2	LITERATURE SURVEY	3
	2.1 Literature Survey	3
3	AIM AND SCOPE OF THE PRESENT INVESTIGATION	11
	3.1 Project Proposal	11
	3.1.1 Mission	11
	3.1.2 Goal	11
	3.2 Scope of the Project	11
	3.3 Overview of the project	11
	3.4 Existing system	12
	3.4.1 Disadvantages	12
	3.5 Preparing the dataset	12
	3.6 Proposed system	13
	3.6.1 Exploratory Data Analysis of loan approval	13
	3.6.2 Data Wrangling	13
	3.6.3 Data collection	13
	3.6.4 Building the classification model	13
	3.6.5 Advantages	14
	3.8 Flow chart	15

4	EXPERIMENTAL OR MATERIALS AND METHODS; ALGORITHMS USED	16
	4.1 System Study	16
	4.1.1 System requirement specifications	16
	4.2 System Specifications	16
	4.2.1 Machine Learning Overview	16
	4.2.2 Flask Overview	17
	4.3 Steps to download & install Python	17
	4.3.1 IDE Installation for python	17
	4.3.2 Python File Creation	17
	4.4 Python Libraries needed	17
	4.4.1 Numpy library	18
	4.4.2 Pandas library	18
	4.4.3 Matplotlib library	18
	4.4.4 Seaborn library	19
	4.4.5 Scikit Learn library	19
	4.4.6 Flask	19
	4.5 Modules	20
	4.6 UML diagrams	21
	4.6.1 Use Case Diagram	21
	4.6.2 Class Diagram	22
	4.6.3 Activity Diagram	23
	4.6.4 Sequence Diagram	24
	4.6.5 Entity Relationship Diagram	25
	4.7 Module Details	26
	4.7.1 Data Pre-processing	26
	4.7.2 Data Validation /Cleaning /Preparing Process	27
	4.7.3 Exploration data analysis of visualization	28
	4.7.4 Comparing Algorithm with prediction in the form of best accuracy result	29
	4.7.5 Algorithm and Techniques	33
	4.7.6 Deployment Using Flask	44

5	RESULTS AND DISCUSSION, PERFORMANCE ANALYSIS	46
	5.1 Performance Analysis	46
	5.2 Discussion	46
6	SUMMARY AND CONCLUSION	48
	6.1 Summary	48
	6.2 Conclusion	48
	6.3 Future Work	48
	REFERENCES	49
	APPENDIX	
	A. SOURCE CODE	50-60
	B. SCREENSHOTS	61-62

LIST OF FIGURES

FIGURE NO.	FIGURE NAME	PAGE NO.
3.1	Architecture of Proposed Model	11
3.2	Flow chart	12
4.1	System Architecture	21
4.2	Use Case Diagrams	21
4.3	Class Diagram	22
4.4	Activity Diagram	23
4.5	Sequence Diagram	24
4.6	Entity Relationship Diagram	25
4.7	LINEAR Regression	34
4.8	Random Forest Classifier	37
4.9	Decision Tree Classifier	38
4.10	Lasso Regression	40
4.11	Support Vector Classifier	42
4.12	Support Vector Classifier	42
4.13	Gradient Boost	43
6.1	Machine Learning Algorithms Accuracy	50
6.2	Home Page	60
6.3	Output Graph	61

CHAPTER-1

INTRODUCTION

1.1 OBJECTIVE OF THE PROJECT:

The goal is to develop a machine learning model for Bank Loan Approval Prediction, to potentially replace the updatable supervised machine learning classification models by predicting results in the form of best accuracy by comparing supervised algorithm.

1.1.1 *Necessity:*

This online bank loan approval system helps in overcoming the time management. This Application is very easy to use. It can work accurately and very smoothly in a different scenario. It reduces the effort workload and increases efficiency in work. In aspects of time value, it is worthy. In this website the user can check the loan status easily whether approved or not.

1.1.2 *Software development method:*

In many software applications program different methods and cases are followed such as, Waterfall model, Iterative model, Spiral model, V-model and Big Bang model. I used waterfall model in this application. I tried to use test case and case software approaches.

1.1.3 *Layout of the document:*

This documentation starts with formal introduction. After introduction analysis and design of the project are described. In analysis and design of the project have many parts such as project proposal, mission, goal, target audience, environment. Use cases and test cases are in chapter 2 and chapter 3 respectively. Finally, this documentation finished with result and Conclusion part.

1.2 OVERVIEW OF THE DESIGNED PROJECT:

At first, we take the dataset from our resource then we have to perform data-preprocessing, visualization methods for cleaning and visualizing the dataset respectively and we applied the Machine Learning algorithms on the dataset then we generate the pickle file for the best algorithm and flask is used as user interface for displaying the result.

CHAPTER-2

LITERATURE SURVEY

2.1 LITERATURE SURVEY:

General

A literature review is a body of text that aims to review the critical points of current knowledge on and/or methodological approaches to a particular topic. It is secondary sources and discuss published information in a particular subject area and sometimes information in a particular subject area within a certain time period. Its ultimate goal is to bring the reader up to date with current literature on a topic and forms the basis for another goal, such as future research that may be needed in the area and precedes a research proposal and may be just a simple summary of sources. Usually, it has an organizational pattern and combines both summary and synthesis.

A summary is a recap of important information about the source, but a synthesis is a re-organization, reshuffling of information. It might give a new interpretation of old material or combine new with old interpretations or it might trace the intellectual progression of the field, including major debates.

Depending on the situation, the literature review may evaluate the sources and advise the reader on the most pertinent or relevant of them

Review of Literature Survey

Title : Enhancing Bitcoin Price Fluctuation Prediction Using Attentive LSTM and Embedding Network

Author: Yang Li, Zibin Zheng and Hong-Ning Dai

Year : 2019

Bitcoin has attracted extensive attention from investors, researchers,

regulators, and the media. A well-known and unusual feature is that Bitcoin's price often fluctuates significantly, which has however received less attention. In this paper, we investigate the Bitcoin price fluctuation prediction problem, which can be described as whether Bitcoin price keeps or reversals after a large fluctuation. In this paper, three kinds of features are presented for the price fluctuation prediction, including basic features, traditional technical trading indicators, and features generated by a Denoising autoencoder. We evaluate these features using an Attentive LSTM network and an Embedding Network (ALEN). In particular, an attentive LSTM network can capture the time dependency representation of Bitcoin price and an embedding network can capture the hidden representations from related cryptocurrencies. Experimental results demonstrate that ALEN achieves superior state-of-the-art performance among all baselines. Furthermore, we investigate the impact of parameters on the Bitcoin price fluctuation prediction problem, which can be further used in a real trading environment by investors

Title : A Research On Bitcoin Price Prediction Using Machine Learning Algorithms.

Author: Lekkala Sreekanth Reddy, Dr.P. Sriramya

Year : 2020

In this paper, we proposed to predict the Bitcoin price accurately taking into consideration various parameters that affect the Bitcoin value. By gathering information from different reference papers and applying in real time ,I found the advantages and disadvantages of bitcoin price prediction. Each and every paper has its own set of methodologies of bitcoin price prediction. Many papers has accurate price but some other don't, but the time complexity is higher in those predictions, so to reduce the time complexity here in this paper we use an algorithm linked to artificial intelligence named LASSO(least absolute shrinkage selection operator. The other papers used different algorithms like SVM(support vector machine),coinmarkupcap, Quandl, GLM, CNN(Convolutional Neural Networks)and RNN(Recurrent neural networks) etc.. which do not have a great time management, but in LASSO finding of the results from a larger database is quick and fast..so for this purpose we draw a comparison between other algorithms and the LASSO algorithm, this survey paper helps the upcoming researchers to make an impact in the their papers. The process happens in the paper is first moment of the research, we aim to understand and find 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 every years, recorded daily. By preprocessing the dataset, we apply the some data mining techniques to reduce the noise of data. Then the second moment of our research, using the

Title : Bitcoin Price Prediction using Machine Learning.

Author: Mr. Shivam Pandey1, Mr. Anil Chavan2.

Year : 2021

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 survey, we aim to understand and identify daily trends in the Bitcoin market while gaining insight into optimal features surrounding Bitcoin price. For the second phase of our survey, using the available information, we will predict the sign of the daily price change with highest possible accuracy. Predicting the future will always be on the top of the list of uses for machine learning algorithms. Here in this project we have attempted to predict the prices of Bitcoins using two deep learning methodologies. This work focuses on the development of project based learning in the field of computer science engineering, by taking into account the problem definition, progression, student assessment and use of hands on activities based on use of learning algorithm to develop application.

Title : Forecasting cryptocurrency returns and volume using search engines

Author: Muhammad Ali Nasir1, Toan Luu Duc Huynh.