

Alt-coin Price Trend Prediction using Machine Learning

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Abstract— Altcoin is a crypto currency which is used worldwide for digital payment. In this paper, we tried to estimate the Altcoin price precisely taking into consideration various parameters that affect the Altcoin value. In our work, we pointed to understand and identify daily changes in the Altcoin market while obtaining insight into most appropriate features surrounding Altcoin price. We will predict the daily price change with highest possible accuracy. The market capitalization of publicly traded crypt currencies is currently above \$230 billion. Altcoin, the most valuable crypto currency, serves primarily as a digital store of value, and its price predictability have been well-studied.

This paper presents the proposed idea of implementing a system where the altcoin prices are predicted which will be beneficiary for the investors.

This paper explains the system architecture of proposed idea, various technologies used for this system and methodology used in the project.

Keywords— Altcoin, digital payment, crypto currency, capitalization,

I. INTRODUCTION

Altcoin is a crypto currency which is used worldwide for digital payment or simply for investment purposes. Altcoin is decentralized i.e. it is not owned by anyone. Transactions made by Altcoins are easy as they are not tied to any country. Investment can be done through various marketplaces known as “Altcoin Exchanges”. These allow people to sell/buy Althorns using different currencies. The largest Altcoin exchange is Mt Gox. Altcoins are stored in a digital wallet which is basically like a virtual bank account. The record of all the transactions, the timestamp data is stored in a place called Block-chain. Each record in a block-chain is called a block. Each block contains a pointer to a previous block of data. The data on block-chain is encrypted. During transactions the user’s name is not revealed, but only their wallet ID is made public. Altcoin has two things stability and entrepreneurship. It has the most entrepreneurs creating companies around it with a lot of intellect, dedication and creativity going toward making it more useful. As Altcoin evolves, we can expect Altcoin to grow in unexpected ways as new utility is found. Altcoin owners can expect that its usefulness will only increase over time, hence creating a huge opportunity for investment and make huge profits.

II. LITERATURE REVIEW

Bitcoin is a digital currency designed for the recent market scenario. The currency was created in the year 2009. The idea set out behind the creation of the coin is to use the white paper by one of the mysterious individual Satoshi Nakamoto, whose identity has not yet been recognized (Nakamoto 2013). The idea of the named of Bitcoin is that a paper is termed as bit and the currency as the coin. The concept behind the creation of Bitcoin is the easy transfer of the money without paying a large amount of transaction fees.

The currency was recognised as the future currency because the transaction was very easy. One has to install an app in their smart phone and the account was automatically created following a limit steps of instructions. The concept of Bitcoin is increasing the chances of creation of more black money in the global market. One of the main advantages that were considered that the whole transaction could be easily recognized by the means of digital transaction became one major reason to worry about the monetary balance of the GDP of the country.

The miners using the currency find it very useful because it does not require any kind of specialized form to make it a currency. This could even save energy that is required for the production of the currency used in the market in the recent scenario. The miners were using efficient processors to keep a check of the things related to the transaction of the money through bitcoin. The easy handling of money and the online transaction could be considered as the strengths of the currency.

III. SYSTEM ARCHITECTURE

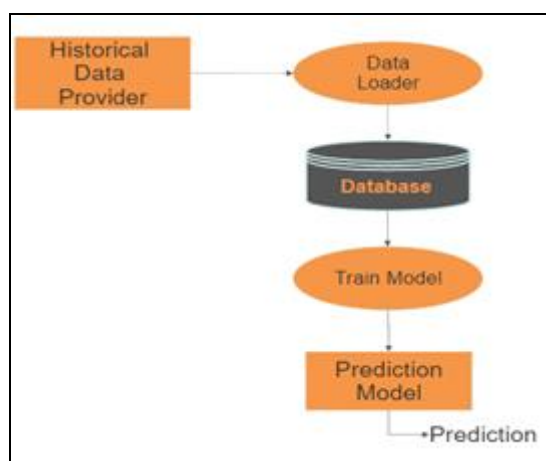


Fig. 1 System Architecture

We have used the Jupyter notebook, in Anaconda 3. Before we build the model, we need to obtain some data for CryptoCompare. The dataset used is in the different periodic form (15min, 6hours, 1day ...) of Altcoin prices for the last few months. Over this timescale, noise could overwhelm the signal, so we'll opt for daily prices. Dataset name Altcoin price.json, Json file for select altcoin exchanges for the time period of July 2019 to Nov 2019 with 1 Lakh instances approximately, with different periodic form updates of OHLC (Open, High, Low, Close), Volume in different altcoin and indicated in bitcoin. After all datasets are collected, we train the model by using this dataset and by using current price of altcoin, predict model predicts the price. All paragraphs must be indented. All paragraphs must be justified, i.e. both left-justified and right-justified.

A. Data Set

In the online bitcoin marketing these days contains huge amount of raw data in different currencies and in many formats. The different datasets will be taken from the different websites. The datasets will be stored into the database which will be used further for the train model and prediction model.

B. Designing Database

The important part of the system is to design the database for different datasets in particular format like (15min, 6hours, 1day ...) data. These data will be interlinked to each other. The main data will be used in all the modules as the input data.

C. Trained Model

After designing the database, making a trained model is also an important. The raw data will be processed and made into required or appropriate format so that from the detailed historical data the trained model is generated which is used in the future prediction process.

D. Prediction Model

The prediction model will predict the bitcoin price by using the trained model and the current data. And on the basis of the prediction the user will decide whether to invest money or not.

IV. TECHNOLOGY USED

A. Machine learning:

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it learn for themselves. The goal of machine learning is to create model and model is created by process called training. The goal of training is to create accurate model to answer the questions correctly. In order to train the data we need to collect the data and so many steps are required. In machine learning we used some algorithms [1].

B. Linear regression:

Linear regression models are used to show or predict the relationship between two variables or factors. Even a line in a simple linear regression that fits the data points well may not say something definitive about a cause-and-effect relationship. In simple linear regression, each observation consists of two values.

C. Classifier:

Classifier is a supervised function (machine learning tool) where the learned (target) attribute is categorical ("nominal"). It is used after the learning process to classify new records (data) by giving them the best target attributes (prediction).

D. MySQL:

MySQL is a relational database management system based on SQL – Structured Query Language. The

application is used for a wide range of purposes, including data warehousing, e-commerce, and logging applications. The most common use for MySQL however, is for the purpose of a web database.

E. TensorFlow:

TensorFlow, created by Google, is an open-source deep learning framework. It can be used to train Neural Network (NN) models and to predict results by using much Graphical Processing Unit (GPU) to collaborate, therefore, powerful algorithms for deep learning and NN can be implemented. This framework can also be applied in several other areas such as speech recognition, computer vision, robotics, and so on. TensorFlow can generate data flow graphs for processing when graphs are composed of node groups.

V. DATAFLOW DIAGRAM

A. Level 0 Dataflow Diagram:



Fig. 2 Dataflow Diagram Level 0

The level-0 DFD gives the basic idea of taking a datasets and form a datasets and store them in database. After that, using historical data trained model is created. Finally, after prediction model the prediction is generated.

B. Level 1 Dataflow Diagram:

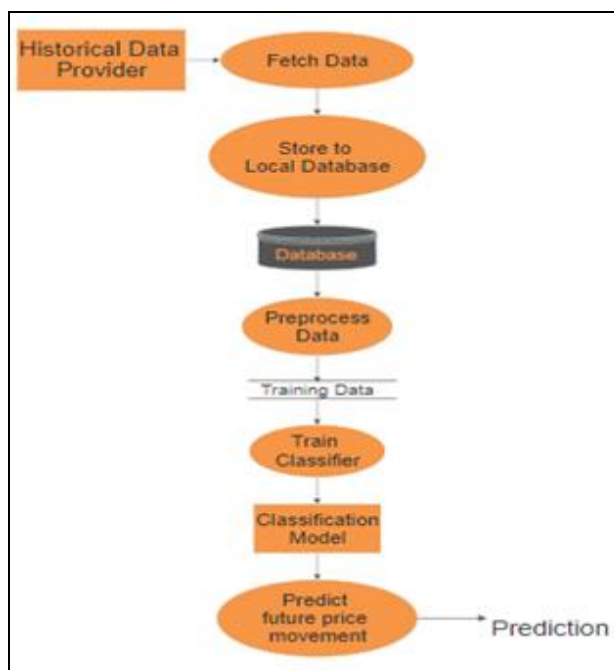


Fig. 3 Dataflow Diagram Level 1

The level-1 DFD show the flow of prediction process it fetches the data from historical data provider and store that data in local database. After preprocessing data train data is generated and based on that train classifier we will predict every movement of the future price.

C. Level 2 Dataflow Diagram:

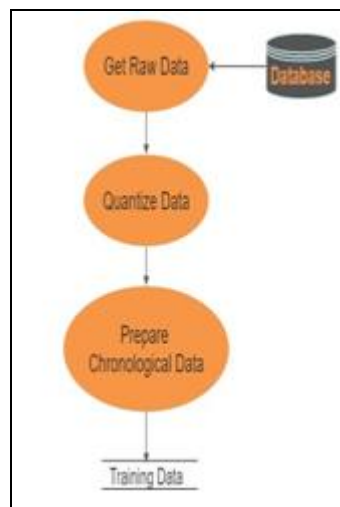


Fig. 4 Dataflow Diagram Level 2

The level-2 DFD show the flow of preprocess data it fetch the data from local database. After getting raw data it generate the quantized data and based on that prepare chronological data which we will generate train data.

VI. FUTURE SCOPE

If we talk about the future scope then it develop an automated trading system with buy or sell notification. Which gives an Alerts message to the user based on the threshold? Threshold is the range in which the prediction of bitcoin price is decided. i.e. If predicted bit coin price is above threshold buy signals. And if predicted bit coin price is below threshold sell signals.

VII. CONCLUSIONS

In this paper ,the system deals with the prediction of the bitcoin price. The purpose of this system is to design a application for prediction of bitcoins price. That use to people that they can invest there money or not in bitcoin. Bit coin is highly volatile and has higher returns than conventional financial trading .History generally has a way of repeating itself but bit coin has a lot of history which makes it an equal challenge predicting which history will be repeated. It takes more than a study of past trends to get predictions .The goal of this project is to find a model where we can predict the value of the Altcoin stock considering all the factors which influence the price.

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