STOCK PRICE PREDECTION SYSTEM USING MACHINE LEARNING WITH PYTHON

Project Guide : Pradeep Kumar Mishra, Project Guide

Ayan Khan

Sharda Univeristy, Greater Noida

Computer Science

ABSTRACT

The main aim of this final year project was to get an idea of the stock market as how it works and what all are the main attributes to check a particular stock on a particular day. Since tesla stocks have shown a great rise in the last twelve years due to which it is easily to predict the future stocks as well.

The prediction system uses Jupiter as the operator and uses several other libraries through which the prediction can be done for the upcoming stocks. The data set of the past ten years of the stocks value is being provided, on the bases of which the prediction is being taken and the machine is trained with the data set to predicts the upcoming prediction.

INTRODUCTION

1.   In this project you can see the interaction between the human and machine as how a machine just by training some precious data set turns into prediction system

2.   This system is very flexible and easy to use, once the user reads all the instructions properly.

3.   It is mainly designed for the multi-corporates, in which a large amount of data is being processed regularly and it an integrated end to end system as it provides the data for the particular day of stock to get the all the basic details which come from the data base. It also helps in the financial purposes of the owners asserts.

4.   This system is made to improve the quality of the investing process of in the field to accessing for accounts and management of financial activities. It also helps to estimate the incoming barriers and money flow of a particular year to the next year and check the other parameters as well.

PROBELEM DEFITION

1.Lost of recent investments:
The informstion has been arrived that a lot of people lose their money in the stock market as they are unable to predict where the market is being carried away.
2.Lost of updation of information activities:
The world is changing every day and a lot of updations are being carried out every day, so it becomes difficult for the prediction system to not have all the updations till date.
3.Lost of financial services:
When all the calculations are being done manually it takes a lot of time and the rate of error is pretty high due to which the investments can face a huge loss.
4.Lost of reports:
Without a proper dataset system the data can be easily lost and it gets very difficult to get the whole data.

HARDWARE SPECIFICATION

For any software application to run and the user can use its basic services a hardware is needed. There are plenty of softwares such as hospital management system which uses a large amount of files to be processed and thus it requires a large amount of storage database on the hard ware

Hardware required for this project are :

Processor : intel dual core, i3

Ram : 1GB

Hard disk : 80 GB

Software Specification

These are needed to be run on the device as it provides the basic layout for the whole program. Some are installed in the package but some need to be installed seperatly as:

Software required for this project are:

Operating system : Windows 7/xp/8

Front End : Html, css, java script
a
Server Side Script : python

MOTIVATION

THE MAIN PURPOSE TO BUILT THIS STOCK PREDECTION SYSTEM IS TO CHECK HOW WELL THE MACHINE CAN ANALYZE THE DATA GIVEN TO IT TO GET THE FUTURE OUTCOMES WHICH WILL BE USED FOR THE UPCOMING INVESTMENTS AND IT WILL ALLOW MANY MORE INVESTORS TO MAKE HUGE PROFITS JUST BY INVESTING INTO IT.

OBJECTIVES

THESE ARE NEEDED AS TO GIVE THE EXACT THINGS TO BE REMBEMBERED WHILE MAKING THE WHOLE SOFTWARE, WHILE KEPT IN MIND ALL THE UPDATIONS AND UPGRADATIONS ABOUT THE WHOLE THING:

OBJECTIVES REQUIRED FOR THIS PROJECT ARE:

1. Create user friendly layout for the user
2. Dataset feature
3. High of the day
4. Low of the day
5. Predict the future amount as well

CONTRIBUTIONS

1. Achieve good quality ratings
2. Better revenue management
3. Improve data investments
4. Establish a well trained model

SUMMARY

THIS HELPS IN:

- DEFINE STOCK MARKET SYSTEM

- GENERATE INVESTMENTS PROPERLY

- EXPERT'S APPOINTMENT

- KEEP ALL THE PREVIOUS RECORDS SAFE

- KEEP THE RECORED OF THE TRADES AND INVESTEMENTS THE USER HAS GONE THROUGH

- PROPER UPGRADATIONS AND UPDATIONS ABOUT THE WHOLE THING.

- TRAIN VERSUS TEST PROGRAM

LITERATURE SURVEY

1. IN THE TWELVETH CENTURY FRANCE, THE COURTARIER IMPOSED LAWS ON THE AGRICULTURAL COMMMUNITIES FOR MANAGING THE DEBTS ON THE BEHALF OF THE FARMERS, DURING WHICH THE FARMERS STARTED TO TRADE SHARES AND CALLED THE FIRST BROKERS.

2. A GATHERING OF BRUGES COMMODITY TRADERS WAS HOSTED BY A GUY BY THE NAME OF VAN DER BEURSE AT THE BEGINNING OF THE 13TH CENTURY. THE BRUGSE BEURSE, WHICH HAD PREVIOUSLY BEEN A LOOSE ASSOCIATION, WAS OFFICIALLY ESTABLISHED IN 1309. THE BELIEF.

3. BEFORE REACHING BEURZEN AND OTHER NEARBY COUNTIES, IT THEN QUICKLY SPREAD TO GHENT AND AMSTERDAM.

4. THE AMSTERDAM BEURS BECAME THE FIRST STOCK EXCHANGE TO TRADE CONTINUOUSLY IN THE EARLY 17TH CENTURY. MODERN SPECULATIVE INSTRUMENTS LIKE SHORT SELLING, OPTION TRADING, DEBT-TO-EQUITY SWAPS, MERCHANT BANKING, UNIT TRUSTS, AND OTHERS WERE DEVELOPED BY THE DUTCH.

DESIGN AND IMPLEMENTATION

Methodology:

1.   WATERFALL METHODOLOGY: IN THIS TYPE OF APPROACH THE WHOLE MANGEMENT SYSTEM IS SPLIT INTO DIFFERENT STAGES AND PARTS AND EACH STAGE AND PART IS USED TO BE COMPLETED AND THEN MOVE ON TO THE NEXT PART.

2.   THE INTIAL STAGE IS THE REQUIREMENTS IN WHICH ALL THE NECCSAARY REQUIREMNST ARE BEEN TAKEN, LIKE IN THIS ALL THE MAIN POINTS WERE BEEN DISCUSSED LIKE WHY IS THIS STOCK PREDICTION SYSTEM IS BEING MADE? AND WHAT CAN BE ITS FURTHER USE?

3.   THE NEXT PHASE IS THE DESIGN PHASE, IN THIS A BASIC LAYOUT IS BEING PREPARED IN WHICH ALL THE MAIN FUNCTIONS AND THE OVERVIEW IS TAKEN JUST TO GET THE GLIMPSE OF THE WHOLE MODEL.

4.   NEXT COMES THE IMPLEMENTATION, IN THIS THETHE WORK IS DIVIDED AND EVERY SECTION IS PREPARED INDIVIDAULLY, TAKING CARE THAT NOTHING TO BE LEFT TILL THE END.

5.   VERIFICATION, IN THIS STEP ALL THE PREVIOUS STEPS ARE BEEN RECHECKED AGAIN SO THAT NOTHING SHOULD GO WRONGE AT THE TIME OF IMPLEMENTATION, AND IF THERE IS ANY PROBLEM IT CAN BE CURED THEN ONLY.

6.   THE END STEP IS THE MAINATENANCE STEP, IN THIS THE SYSTEM HAS TO BE UPDATED, CHECKED AND TO BE REVIEWED THAT ALL THE PARTS ARE WORKING FULLY AND NOTHING IS BEEN GEETING OUT OF THE LINE.

FIGURE OF ATTRIBUTES


```
]: unseen_predictions = predict_model(tuned_et, data=data_unseen)
   unseen_predictions
```

	date	open	high	low	close	volume	Label
0	2010-06-30	25.79	30.4192	23.3000	23.83	17187100	24.713330
1	2010-07-02	23.00	23.1000	18.7100	19.20	5139800	17.665905
2	2010-07-22	20.50	21.2500	20.3700	21.00	957800	18.555085
3	2010-07-23	21.19	21.5600	21.0600	21.29	653600	19.121429
4	2010-08-24	19.25	19.7100	18.9500	19.20	673100	17.687154
...	...	...	...	...	...	...	...
288	2021-12-27	1073.67	1117.0000	1070.7152	1093.94	23715273	1100.733923
289	2022-01-03	1147.75	1201.0700	1136.0400	1199.78	34895349	1170.574744
290	2022-02-03	882.00	937.0000	880.5200	891.14	26285186	904.263684
291	2022-02-15	900.00	923.0000	893.3774	922.43	19216514	916.743227
292	2022-02-18	886.00	886.8700	837.6100	856.98	22833947	859.518197

293 rows × 7 columns

All the main attributes including the high point, low point , close point and the open point of the particular stock for that day is shown in the above picture. These are some of the most important point to predict the stock for the upcoming days/ months. Through which a lot of investors and managers can invest their money.

IMPLEMENTATION

IN THIS STAGE IT INVOLVES THE PLANNING, RESTRUCTING, CODING AND CAREFULLY INVESTIGATION OF THE EXSITING SYSTEM, IT'S MAIN TRAGET IS TO GET THE DESIRED OUTCOME.

CONCLUSION

BY USING THE STOCK PREDICTION SYSTEM, USER CAN CHECK HOW THE SYSTEM READS THE VARIOUS ATTRIBUTES OF THE STOCK TO PREDICT THE NEXT TERM STOCK PRICES. IN THE GIVEN SYSTEM A TRAINING MODEL IS BEING INTRODUCED AND ALL THE ESSENTIAL THINGS ARE KEPT IN MIND TO GET IT TO THE NEXT STAGE. DURING THIS TIME ALL THE ESSENTIAL POINTS ARE BEING DISCUSSED AND THE NEW MODEL IS BEING INITALIZED.

LIMITATIONS

1. NEED SOME KNOWLEDGE OF COMPUTER WITHOUT IS CAN'T USE IT
2. NEED TRAINING TO OPERATE THE SYSTEM
3. IF ANY DAMAGED COMES IN THE HARDWARE. IT CAN TAKE A LONG TIME TO REPAIR IT OR THE MACHINES NEEDS TO BE REPLACED WHICH CAN SLOW THE WHOLE PROCESS
4. UNWANTED POWER-CUT OFFS

FUTUTRE SCOPE

1. INCREASE THE NUMBER OF INVESTORS.
2. MORE STOCKS ARE BEING INRODUCED FOR THE INVESTORS
3. THE ACCURACY HAS TO BE DONE MORE PRECISELY AND ELIMINATE ALL THE VARIOUS FACTORS.
4. A CLOUD WILL BE ESTABLISHED

PUBLICATIONS AND REFERENCES

1. A BEGGINERS MIND TO THE STOCK MARKET BY MATTEW R. KATTER
2. STOCK INVESTING FOR DUMMIES BY PAUL J. MLADJENVIOC
3. HOW TO DO DAY TRADE FOR A LIVING BY ANDREW AZIZ
4. LEARNING JUPYTER BY DAN TOOMEY

ACKNOWLEDGMENT

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