SPACE JAM 2021

PROJECT DESCRIPTION

TEAM NAME

ENIGMA

TEAM MEMBERS

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PROJECT TITLE

BrainStock

DOMAINs

GUI

## ABSTRACT

BrainStock is a stock market prediction application, which aids in the stock trade around the world, by predicting stock rates of various companies based on the current market and their previous contributions and demand. BrainStock aims to ease the process of stock trade for people by being an interactive and user friendly application. It consists of easily understandable ways of displaying the stocks, and also helps beginners master the craft of stock trade, by providing information, tips and suggestions.

## INTRODUCTION

In today's world of declining economies, market crashes, and unemployment, it is highly important for people to invest for a long-term basis in something as certain as stocks. The successful prediction of stocks could yield a significant amount of profit, ultimately benefiting the investor. Though stocks are highly unpredictable, our application will shed light on the various risky moves, as well as the rewarding ones, by reflecting all currently available information such as price changes, demand and supply, etc. Investors find a huge problem in predicting stocks due to uncertain price movement, and it is highly time consuming for them to analyze previous stock rises and predict their next move. And hence, BrainStock sets one's sight on clever strategies to earn the maximum possible by investing on decent markets.

## APPROACH

Our program predicts stock prices by using machine learning models. The code first loads all the data of a particular company, and obtains the Adjusted Close Price. Once the new data is obtained, and prediction for a certain 'n' days into the future takes place. Then, an independent dataframe is created and then converted into a numpy array. The same thing then occurs with a dependent data frame. Then, the code is split into 80% training and 20% testing, upon which the Support Vector Machine (Regressor) is created and trained. The Testing Model Score returns the coefficient of determination R^2 of the prediction, of which the best possible score is 1.0. The Linear Regression Model is then created and trained out of which the same kind of Score output is obtained. Finally, predictions for the linear regression model and the support vector regression model are printed for the next 'n' days.

BrainStock

## ADVANTAGES

Through BrainStock, we aim to determine share prices of various companies' stocks. Stock prediction consists of the cumulative knowledge input the investors impute by 'betting' the stocks in a certain direction.The best investors should also be able to change their minds if the evidence no longer supports their original hypothesis, and hence they need a means to keep their options open and consult a prediction made based on previous history of whatever company they are interested to invest on. The accurate prediction of share price movement will lead to more profit investors can make, and hence BrainStock is an important step that paves the way to fruitful investments.

## PITFALLS

Stock prediction is done based on previous data and currently available information about a particular company. Therefore leaving no scope for newly revealed information like price hikes/downfalls. This means that the prediction is not always 100% correct, and hence investors should not completely depend on the predictions to make their investments, but instead should just take it as a well informed suggestion.

## FUTURE IMPLEMENTATION

We aim to create it into a full fledged market trading tool, with deterministic AI predictions and additional features such as live stock counter with a live prediction model, a more intuitive GUI and space for discussions and blogs for the users of our product. Since this is an AI based model, we expect it to keep getting better in terms of precision and efficiency as time goes on, and possibly work on other finance related prediction systems as well.

## EASE OF IMPLEMENTATION

Ease of implementation- BrainStock is an easily implementable application, because of it's user friendliness and comprehensive approach. Hence, we strongly believe this application could reach a much larger audience and benefit all.

## TECHSTACK