

October 19, 2018

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CSC.59970 - Introduction to Data Science

Group Project Proposal: SafeTrade

Main Theme:

The purpose of this app is to create a platform where the app can predict stock price and up and down trend based on the historical trends of stock market. The prediction process will be implemented using logistic regression.

Potential solutions:

- Stock price prediction
- Rating of available stock tickers
- List of top ten growth stocks

Datasets:

1. <https://www.quandl.com/tools/api>
2. <https://iextrading.com/developer/docs/#authentication>

Variables:

- *Independent:*
 - PE (Price Earning Ratio)
 - Previous Price
 - Dividend
 - Related Company Price Stock
- *Dependent:*
 - Stock Price (future)

Github Repository:

- <https://github.com/breindy/SafeTrade>

Platform Details:

SafeTrade will be a platform for stock investor to invest in stocks that are safe. SafeTrade will allow buying of only those stocks that are above a threshold value/rating. Depending on the threshold value, every stock will be given a rating. Rating will also determine the next appropriate action for this stock buy/sell. To implement this feature, we will have to use some machine learning algorithm and concepts like regression.

Studying features related to certain stocks and understanding all financial terms for mass people is not always easy. And not understanding might incur losses for investors. Having a machine that tells what and when to buy stocks would be a beneficial to money-making success and learning the basics of stock trading. SafeTrade is aimed to minimize all possible losses and enable a client success in stock trading.

There are similar applications in the market like Stash, Robinhood etc. Again, they all provide vast company and stock information that requires a finance specialist to analyze the data. But the app will address a basic stock price prediction model based on Machine Learning models that does not only provide a bunch of finance info, but helps investor by providing helpful insights like what should be the price of the stock compared to similar companies or compared similar features like PE, market capital, and etc.

Some independent and dependent variables to help analyze the stock market price trend (although this data might seem volatile and unpredictable) we will use certain learning models on past prices to analyze based on that. So the date of past price stocks, PE, dividend, as well as related company price stock will serve as the independent variable and the price of the stock during that day will serve as the dependent variable.

User-Types for Application

SafeTrade will be catered towards two types of users for the platform:

1. Client/User
2. Administrator

Users of the platform can sign up to become a member of the application and start investing in certain stocks. Users can browse for the different types of stocks available in the stock market

and get financial information on it. Users will also have the ability to see how well they are doing and also get decision if a certain stock is worth investing in for profit. They have a profile where they can see the different types of stocks that they are currently watching or investing in which also shows how well they are doing on that trading day.

Administrators have the ability to oversee a user's account and see the activity and have the power to suspend an account from making further transactions because of any wrongdoing. The administration user is used to manually make sure SafeTrade is in a safe trading space and working efficiently. The rest of the ability to determine the whether an account is doing suspicious activities are determined by the parameters and conditions of the application.

User Stories

- User has the ability to browse through and see the different available stocks in the stock market.
- User can get informed decisions and gain helpful financial insights toward a certain stock.
- User has the ability to see the available stocks that I am currently investing in.
- User can see the amount of profit and losses in that current trading day, monitor all the activities of my stocks on that day.
- Administrator has the ability to monitor overall client activities and can set an account hold on users performing suspicious activities.
- Administrator has the ability to remove the hold placed in case a user has filed a case against their suspicious activities.

Project Repository:

SafeTrade: <https://github.com/breindy/SafeTrade.git>