**PUMP AND DUMP DETECTION IN STOCK PRICES USING NEURAL NETWORKS AND REGRESSION MODEL**

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**Progress Report**

As our topic includes the prediction of pump and dump scam in stock markets with the help of track records of the transactions been made and the uprising and fall of stock market prices by which the scammers apply their ground policies in order to manipulate the stock prices according to their needs. The basic requirement of this project is the previous stock data of a company by which it will be able to predict the price in upcoming days so that if the price goes on increasing rapidly, it can detect the drastic change and hence prevent the pump and dump scam.

The basic requirements used in this study were the functional requirements as we opted to design an algorithm which can easily predict the trends in the stock market. Moving to the requirements of the experiments conducted, functionally we required a dataset and understanding of the parameters that were a part of the dataset. Usually for prediction, the main thing is the parameters that predict the trend. We used Amazon’s dataset in order to test and predict the future trends in their stock price. Firstly, the orthodox methods and the most useful models are based on the process of modeling while the self-based adjusted training techniques are used in the neural networks, so the traditional models can solve the problem by only having limited information about the surroundings of the underlying model and can predict results using a minimum amount of background knowledge. Contrary to this, neural networks are based on the relationship of the input of one layer with the output of another layer. Neural networks are therefore well applied to the problems where it is really difficult to extract the relationships between data, but on the other hand there are sufficiently large training data sets. It should be remembered that while often the rules or trends we are searching for cannot be identified quickly or the data could be skewed due to the system's operation or calculation noise, it is often assumed that inductive learning or data driven approaches are the best way to cope with real world prediction issues.

**Dataset Representation:**

The parameters of the Amazon dataset contain fields like open, close, high and low etc. which predict the stock with the starting and ending prices in a csv file format. It contains the date and time as well. The understanding of the parameters was done using the tutorials.

Machine learning has always helped the computer scientists classify and predict what's going to be in the future. The positive impacts of the machine learning models have always attracted the developers and scientists. Machine learning is a branch of Artificial Intelligence which is replacing many humans and creating ease.

Furthermore, in the design phase we build the basic flow of the algorithm. We decided to opt the machine learning regression models in order to predict the future trends of the Amazon stock market. Machine learning regression models predict the future trends and classify with good accuracy. The dataset was tested using the neural networks as well in order to see the best prediction.

Since the traditional target in algorithm design lies in the prediction precision, the final goal will tackle the corresponding gain. It is not easy to link the accuracy to income. However it is more reliable to rely on the higher accuracy levels in order to achieve accurate stock prediction as it will be an ideal example of the assets with constant prices sows that it might not be always true as due to the constant nature of the dataset of some stocks the algorithms tends to predict the constant value starting from initial states as it might not change over time.

**Training Dataset:**

The dataset that will be required to train the linear regression and the SVR in order to predict for drastic changes will be from Amazon’s cloud as a part of it is shown below.

