**Comparative Analysis of Machine LearningAlgorithm to Forecast Indian Stock Market**

Complexity and diversity of the stock market has always attracted the researchers since ages to find out the waysto predict the future movement. However, the volatility across the globe in different stock markets makes this task more difficult. Statistical methods and modelling are effective but can’t address the vast range of problems encountered in the prediction of movement of the stock market. The traditional methods used were not able to address and give solution to the complex problems prevailing in the stock market. The machine learning and artificial intelligence tools are used to solve the complex situations and problems of Big Data with ease. In this paper authors propose to use six different algorithms i.e.,Generalized Linear Model, Deep Learning, Decision Tree,Random Forest, Gradient Boosted Trees and Support VectorMachine and identify model which predict near to actuals.These algorithms were applied on the BSE index data from April 2015 to 31st March 2020 and the model with least relative error is identified. Amongst all the models applied, GradientBoosted Trees is chosen to be the efficient one, as it has least relative error and standard deviation. Further GradientBoosted Trees is used to forecast the results.

**EXISTING SYSTEM:**

The stock market is the fuzzy environment full of many uncertain factors. The existence of these uncertain factors makes people face various risks when investing in securities. The stock market is a very complex system, which is affected by economic, policy and market factors.In existing system we are used Naïve Bayes algorithm for stock price prediction. The existing methods used were not able to address and not solve the complex problems in stock prices.

**DISADVANTAGES OF EXISTING SYSTEM:**

1. Using Naïve Byes algorithm we cannot predict exact stock price values.
2. It involves very lengthy and complicated procedure of calculations and analysis..
3. the Existing model is less accurate in predicting the stock prices.

**Algorithm: Naïve-Bayes**

**PROPOSED SYSTEM:**

In proposed system we are applying machine learning algorithms in various fields. Machine learning is predominantly being used in the forecasting of stock prices across stock markets due to the techniques it applies to generalize the patterns. This project applies six prominently used machine learning algorithms to predict BSE SENSEX closing prices.

**ADVANTAGES OF PROPOSED SYSTEM:**

* The machine learning and artificial intelligence tools are used to solve the complex situations and problems of Big Data with ease.
* the proposed model is more accurate in predicting the stock prices.

**Algorithm:** **Generalized Linear Model, Deep Learning, Decision Tree, Random Forest, Gradient Boosted Trees and Support Vector Machine**.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Intel Core i6.
* Hard Disk : 500GB SSD.
* Monitor : 15’’ LED
* Input Devices : Keyboard, Mouse
* Ram : 32GB.

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows 10.
* Coding Language : Python
* Tool : PyCharm, Visual Studio Code
* Database : SQLite

**REFERENCE:**

Sachin Rohatgi; Krishna Kumar Singh; Deepmala Jasuja" **Comparative Analysis of Machine Learning Algorithm to Forecast Indian Stock Market**" Proceedings of the International Conference on Artificial Intelligence and Smart Systems (ICAIS-2021) IEEE Xplore Part Number: CFP21OAB-ART; ISBN: 978-1-7281-9537-7AccessionNumber: 20632364DOI: 10.1109/ICACITE51222.2021.9404642.