STOCK PRICE PREDICTION

PHASE V REPORT

Submitted by

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CHAPTER 5.
CONCLUSION AND FUTURE WORK

5.1 Conclusion :

The project lays the foundation for democratizing machine learning technologies for retail investors, connecting predictions made by machine learning models to retail investors through a mobile application. It helps investors navigate through the stock markets with additional analysis and help them make more informed decisions. The findings demonstrated that the application provides significance in trend prediction. When compared to the baseline, the prediction shows useful trend tendency with the real stock trend. Through the application interface, the user can easily compare the predictions and model scores from different machine learning models, then choosing the one that fits their preference. The models used in the application will continue to improve itself by searching for a better model topology, structure and hyperparameters through evolution algorithm. The findings concluded the usefulness of evolution algorithm in lowering the mean squared error when predicting stock prices, which is helpful for improving the trend prediction for retail investors. Therefore, with the application and research findings, to large extent the project team achieved the aim of creating an user-friendly system for retail investors whom does not have previous technical knowledge to navigate the machine model predictions result with useful benchmarks. There are 4 possible further improvements building upon the findings of this project. First, multiple approaches to framing the problems could be explored in the future, such as Page 80 of 124 predicting whether the stock price goes up or down (binary classification) based on the previous stock prices. Other features could be incorporated, such as market news and sentiment. Combined with the development of more advanced machine learning techniques, the accuracy of the information provided to retail investors might be improved significantly. Second, a larger scale of evolution with larger population size and more iterations could also be tested for achieving better results. Model inputs can also be included into the evolution algorithm as a variable to optimize. Regularized evolution [38] can be tested to eliminate old models regardless of their accuracy, which could allow the algorithm to search for more distant models in the search space. Third, it is also possible to use more finance-specific scores, like those introduced, as the objective function instead of simple mean squared errors to achieve better results. Fourth, mobile applications with better presentation of stock price predictions could be developed to help investors understand the

implications of the stock price predictions, e.g. when to buy or sell. This would allow investors to make more informed decisions based on the machine learning models and truly democratize machine learning technologies, which were believed to be only in the hands of very few people.

5.2 Future work :

we found that the most suitable algorithm for predicting the market price of a stock based on various data points from the historical data is the random forest algorithm. The algorithm will be a great asset for brokers and investors for investing money in the stock market since it is trained on a huge collection of historical data and has been chosen after being tested on a sample data. The project demonstrates the machine learning model to predict the stock value with more accuracy as compared to previously implemented machine learning models.

5.2.1 FUTURE ENHANCEMENT :

Future scope of this project will involve adding more parameters and factors like the financial ratios, multiple instances, etc. The more the parameters are taken into account more will be the accuracy. The algorithms can also be applied for analyzing the contents of public comments and thus determine patterns/relationships between the customer and the corporate employee. The use of traditional algorithms and data mining techniques can also help predict the corporation s‟ performance .

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