

Project Report
On
Stock Market Analysis

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Batch: 2023-10026
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During
EXL-Certified Data Analytics Associate
Course

Under the guidance of
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Submitted to
EduBridge India

2023-2024

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- **Project Title:** Stock Market Analysis
- **GitHub Link:** <https://github.com/RutikRC/Stock-Market-Analysis.git>

Project Details

In day-to-day life, Investors find so much difficulties for predicting future prices of stock market. Stock market is very unpredictable and any geopolitical changes can affect its prices. For example, COVID-19 has so much impact on stocks that some of the stocks got closed due to less assets and after COVID-19 some stocks got risen up high that they're not left behind now.

The Stock Market Analysis using Machine Learning is the best concept for analysing the prices and making future predictions. In the finance industry Machine Learning has so much impact. In this project, the model can predict the future prices based on past data. We can use Deep Learning and Applied Machine Learning for decision making.

This project takes you throughout all the processes Data Analytics has. From Data Collecting to Making Visualizations. Actual Opening Prices and Predicted Opening Prices are the two values our model has predicted throughout the analysis. These prices are considered as a trial for making future predictions are quite considering or not.

I have used Yahoo Finance library for data retrieving. Which is streaming data for analysis over 5 years of time period.

NSE stands for National Stock Exchange India which is world's 4th top market by trading volumes. Also, I have gathered data of selective banks for individual analysis onto it.

Listed Banks are –

- NSE
- AU Small Finance Bank
- AXIS Bank
- HDFC Bank
- ICICI Bank
- BANDHAN Bank
- INDUS INDIA Bank

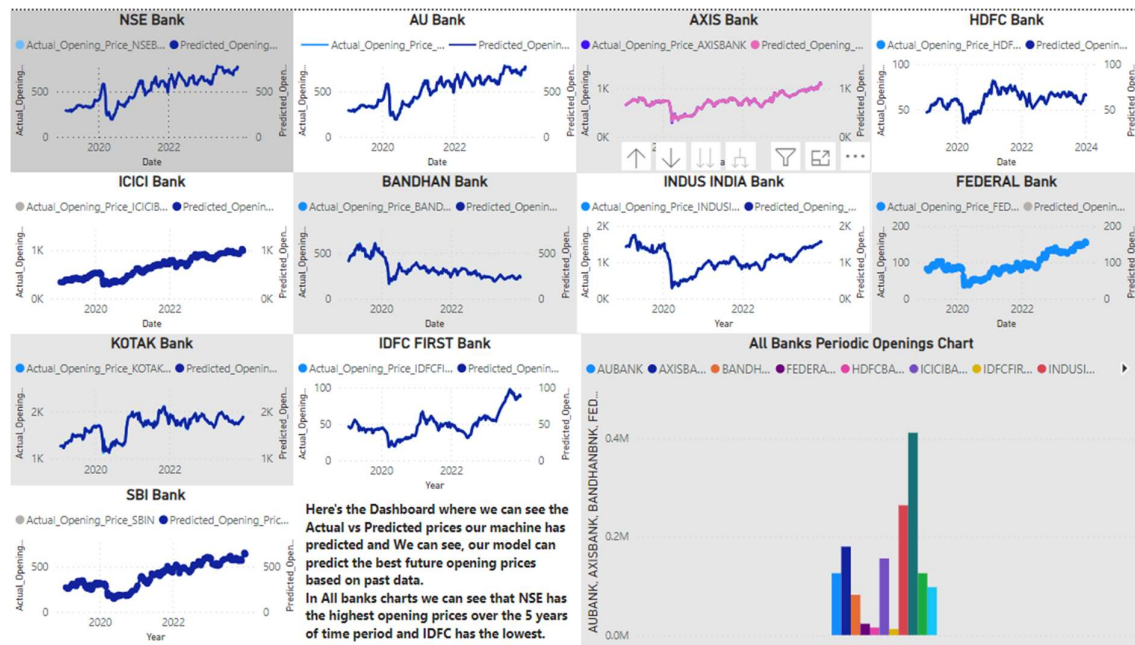
- FEDERAL Bank
- KOTAK Bank
- IDFC FIRST Bank
- SBI Bank

Stock market data is time series data so, the Time Series Analysis can be done on this type of data. In Machine Learning, Linear Regression, Decision Tree, Support Vector Machine, Naïve Bayes can be used for time series analysis. I have used Linear Regression for making predictions because it's quite considerable for numeric values and time-based data.

MSE (Mean Squared Error) is to evaluate our model whether the model fits the data and makes predictions correctly or not.

Power BI is a powerful tool developed by Microsoft for Data Analysis Visualizations. I have used this for understanding the result data of all the banks by making visualizations.

Power BI Dashboard –



Conclusion:

- Machine Learning is the best asset for analysing trends and patterns for future predictions on stocks and other financial reports for any organization.
- Linear Regression can predict best value prices for future and can be considered as a good well-suited model for stock market analysis.
- Based on my analysis NSE has the highest traded opening prices volumes over time and IDFC FIRST Bank has the lowest of all.
- Investors can start investing in NSE, AU Bank, AXIS Bank, ICICI Bank, KOTAK Bank, IDFC FIRST Bank and SBI Bank for short- or long-term investing. But on your own risk because anything can happen over mid-night.

I have uploaded the BI File, Jupyter File, PowerPoint Presentation and a project walkthrough video on my GitHub profile. Please, Check!

Thank You!