NIFTY-50 STOCK PREDICTION MASTER

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Abstract- **For a very long time, there has been constant study in the stock market on designing and building a model for prediction with a reliable stock price prediction. The most important part of the overall forecasting process, however, is forecasting changes in stock prices. Research demonstrates that movements in stock prices can be somewhat predicted, despite certain market hypotheses contending that it is difficult to anticipate stock price movement correctly. When prediction models are properly created, developed, and improved, stock price movement may be precisely measured. In this paper, the LSTM (Long Short-Term Memory) Algorithm based on Deep Learning (DL) is proposed. We received historical stock price information for the NIFTY 50 index for the previous 10 years from India's stock exchange (NSE). The period chosen for the historical database was 10 December 2011 through 10 December 2021. After being normalized, this dataset is utilized for model testing and training. The accuracy of the proposed model's predictions is 83.88 percent, which is rather encouraging.**

*Keywords***: Nifty 50, Nifty Financial Sector Indices, Granger Causality, Impulse Response Function.**

INTRODUCTION

Forecasting the stock market performance is the hardest things to do. Many factors are involved in prediction – physiological and psychological factors, rationality irrationality behavior, etc. All these factors cause fluctuations in prices stock and are hard to predict high accuracy. In this project, We will use historical data about stock prices of publicly traded companies. Starting with simple algorithms like averaging and horizontal, then moving on to Many advanced methods like automatic ARIMA and LSTM, we will apply a combination utilizing machine learning methods to forecast future market value of a company.

METHODOLOGY
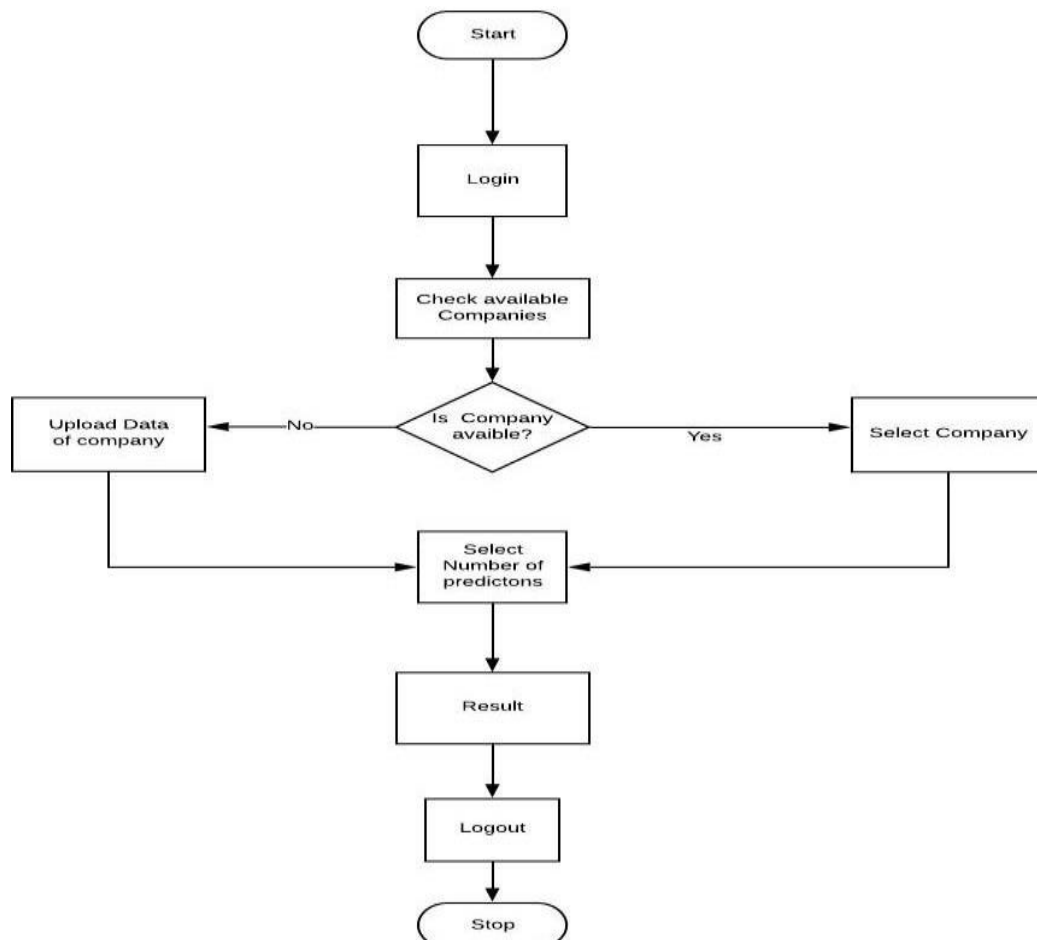
Figure1: Flow diagram

Deep learning (also known as deep learning) is one of the larger family Several approaches for machine learning Recurrent neural networks with convolutions, networks and other deep learning methods computer vision, knowledge about speech, language study, Chapter Voice recognition, speech, etc.

Working artificial neural networks (ANN) expression inspired by the way the biological nervous system (like the brain) processes data Chapter execution method of The main point of this application is the new architecture of Data Management System.Chapter Harassment Chapter Harassment Argument is not good, learned by example like people. Learning the biological process of systems is concerned with changing the synaptic connections that will exists between neurons. The same goes for neural artificial intelligence.

A Time series is content indexed (or listed or arranged) chronologically. data properties. Time Series Forecasting is the use of a model that forecasts future outcomes based on past observations.

The RNN is a neural network designed to analyze the information flow from cells. In some applications, such as typing, speech recognition, and DNA sequencing, the output is dependent on previous calculations. Section harassed Section There are also important representatives who keep information about the past.

Long-Term Memory (LSTM) is a repetitive neural network (RNN) architecture used in deep learning. Section 17 Section Classifying, processing and forecasting time series data significant events in a period may have long-term uncertainty. It has manyadvantages could be over traditional neural networks and RNNs.

ALGORITHM STEPS

- Fundamentals analysis
- Technical analysis
- Time Series forecasting
This approach is a suitable for the short-term forecasting. The third approach is time series data analysis. There are two classes of algorithms
- Linear model
- Non-linear models
AR, ARMA, ARIMA and variations are different linear models. This model use a determinations of equations to fit mathematical models to the homogeneous time series.

RESULTS

1. *Home Page*
- It is the main screen when the user enters the site.
- First the user views about live Nifty 50 chart.
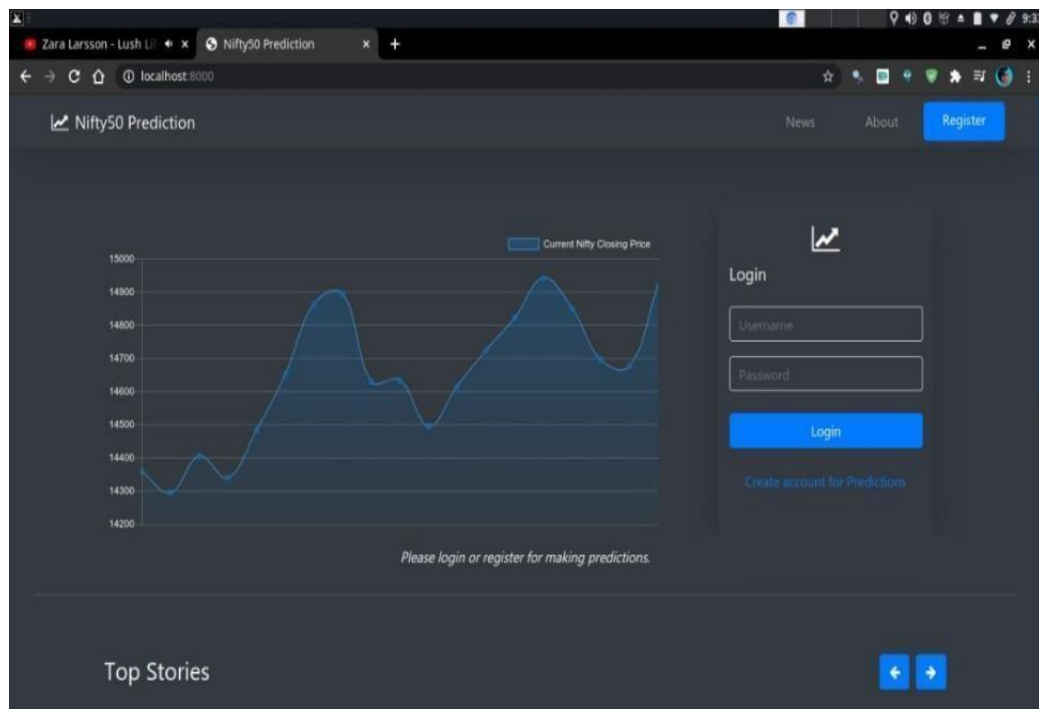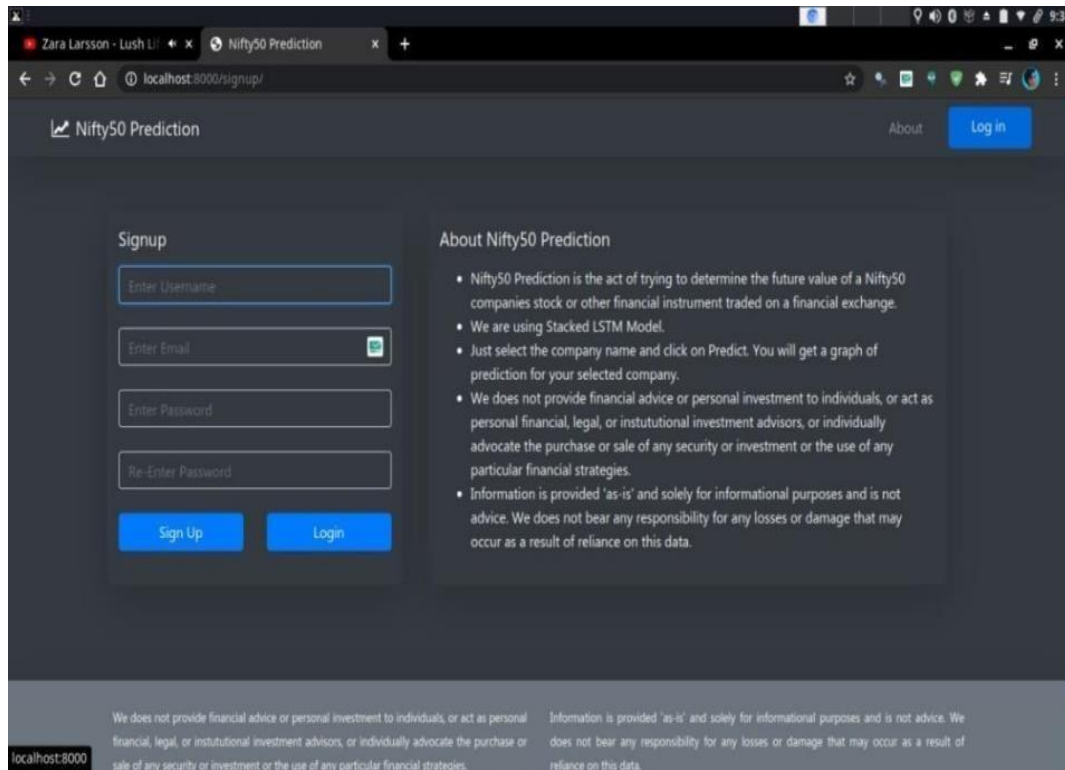- Then user should login for the prediction.


Fig.1 Home Page

2.   Signup/Registration Page

Fig.2 Signup/Register Page

☐   In this registration module first the users has to be registered to the site/app.

☐   The registration includes User id , Email id , password, and confirm the password.

☐   This is also called as a first-time registration form that is the users has to the register forthe first time and there after only need to login.
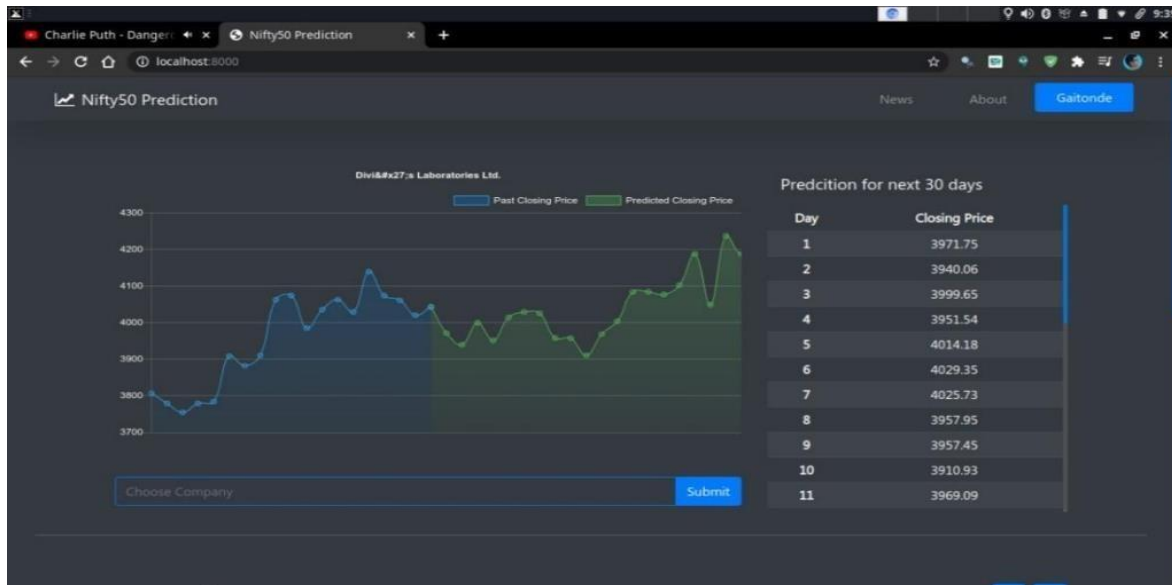
3.   Stock selection page
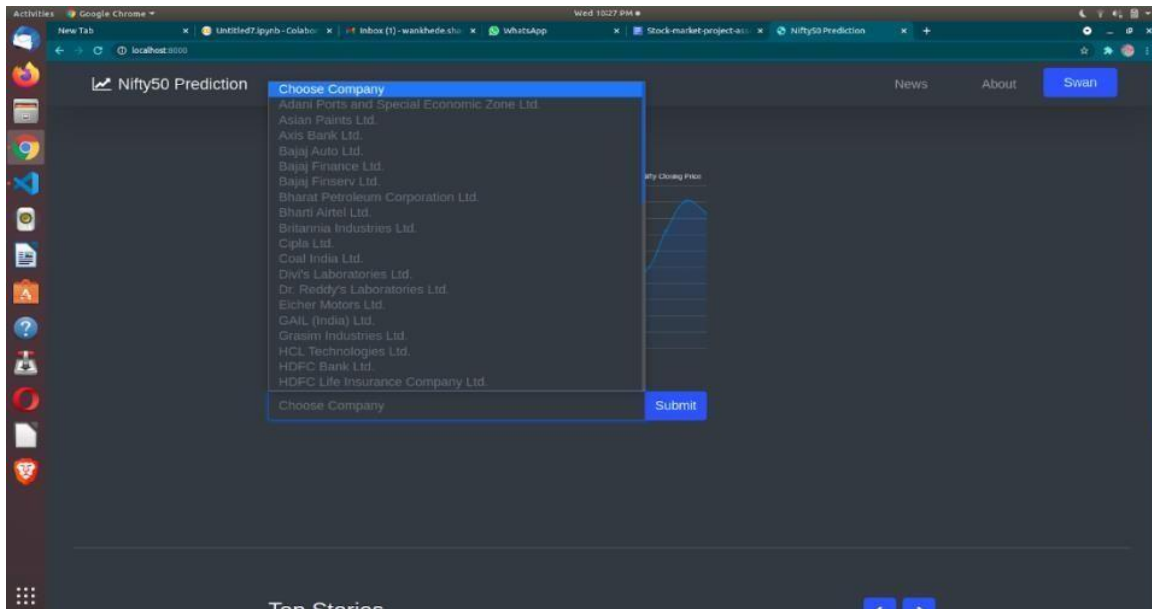
Fig.3 Stock selection page

☐ Thes users clicks on the scrollbar to selects the stock and clicks on submit button.

☐   The display shows a predicted graph and table of next 30 days.

4. *Next 30 day's prediction of Stock*

Fig.4 Prediction of stock

☐ When the user clicks to a predicts button the Prediction for the next 30 days willbe generated.
☐ On the screen user can watch the previous data and the predicted data in formof graph.
☐ On the right side we can watch the closing price of next 30 days.

5. *News Section*

☐ In news section user can read the latest news about the market when he or sheclicks on the news.

Fig.5 News Section
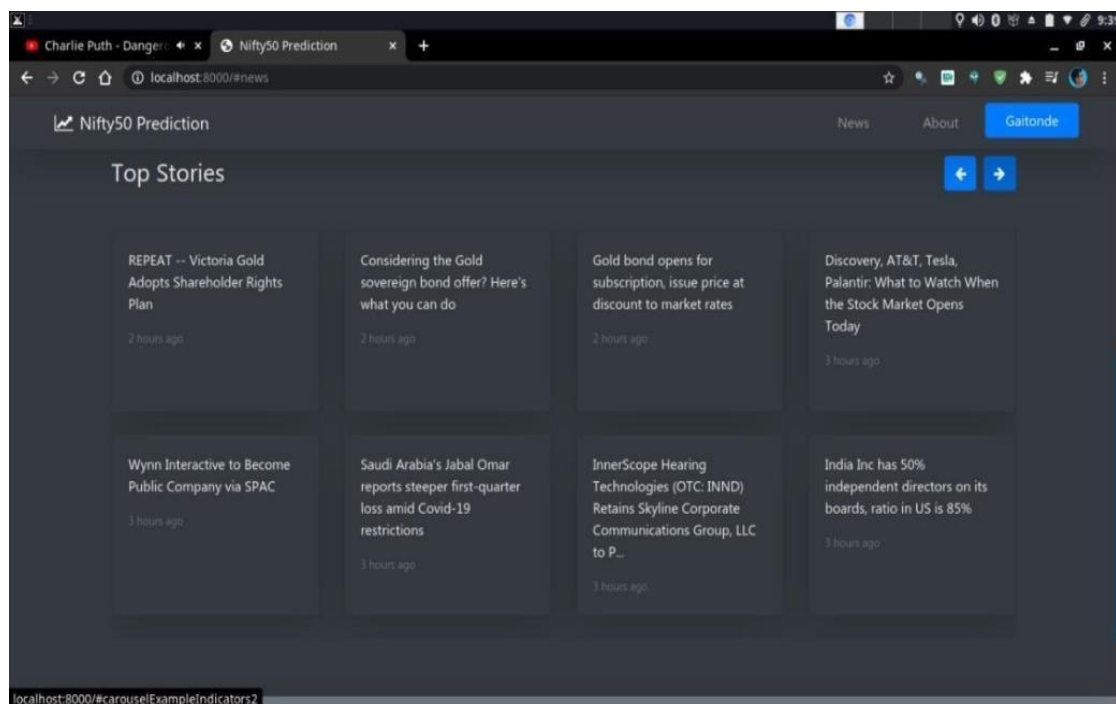
CONCLUSION

Conclusion Time series analysis after examining various papers related to stock market forecasting. We thus, In general, deep learning models can be built that can predict stocks prices basis on the past prices over time or data. Various experiments have a been performed using the different methods with the best results found in neural-based methods. So, seeing the results, we decidedto take a the similar approach to developing our system. We will test the our system against major databases and compare our results based on system accuracy, number of tags, and efficiency.

FUTURE ENHANCEMENT
1. Build more the robust models for greater accuracy
2. Number of companies
3. Better interactivity
4. Special data entry

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