



Stock Price Prediction

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Introduction

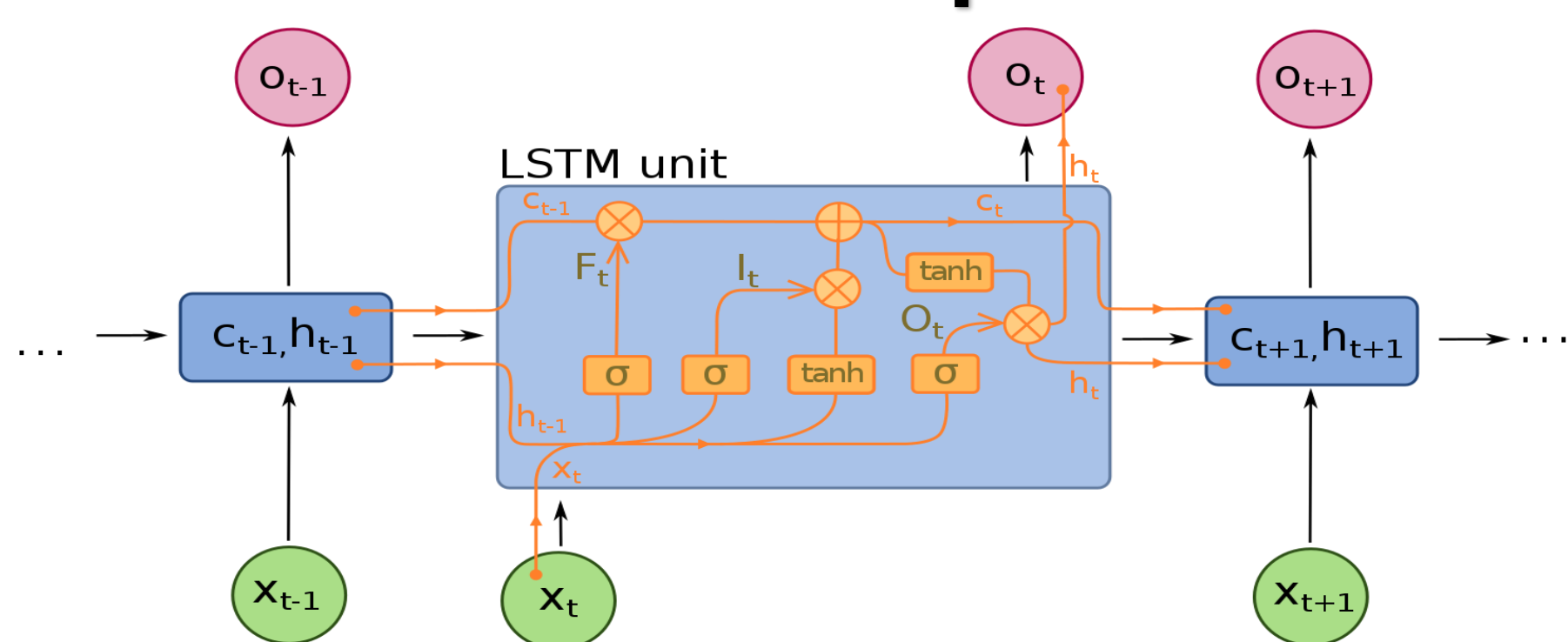


A **stock market**, is the aggregation of buyers and sellers of **stocks** (also called shares), which represent ownership claims on businesses.

The main challenge in stock market is to predict the values of stock for next day. The **challenge** of the **stock price forecast** is the most crucial component for companies and equity traders to **predict** future revenues. A successful and accurate **prediction** to the future **stock prices** ultimately results in profit maximisation.

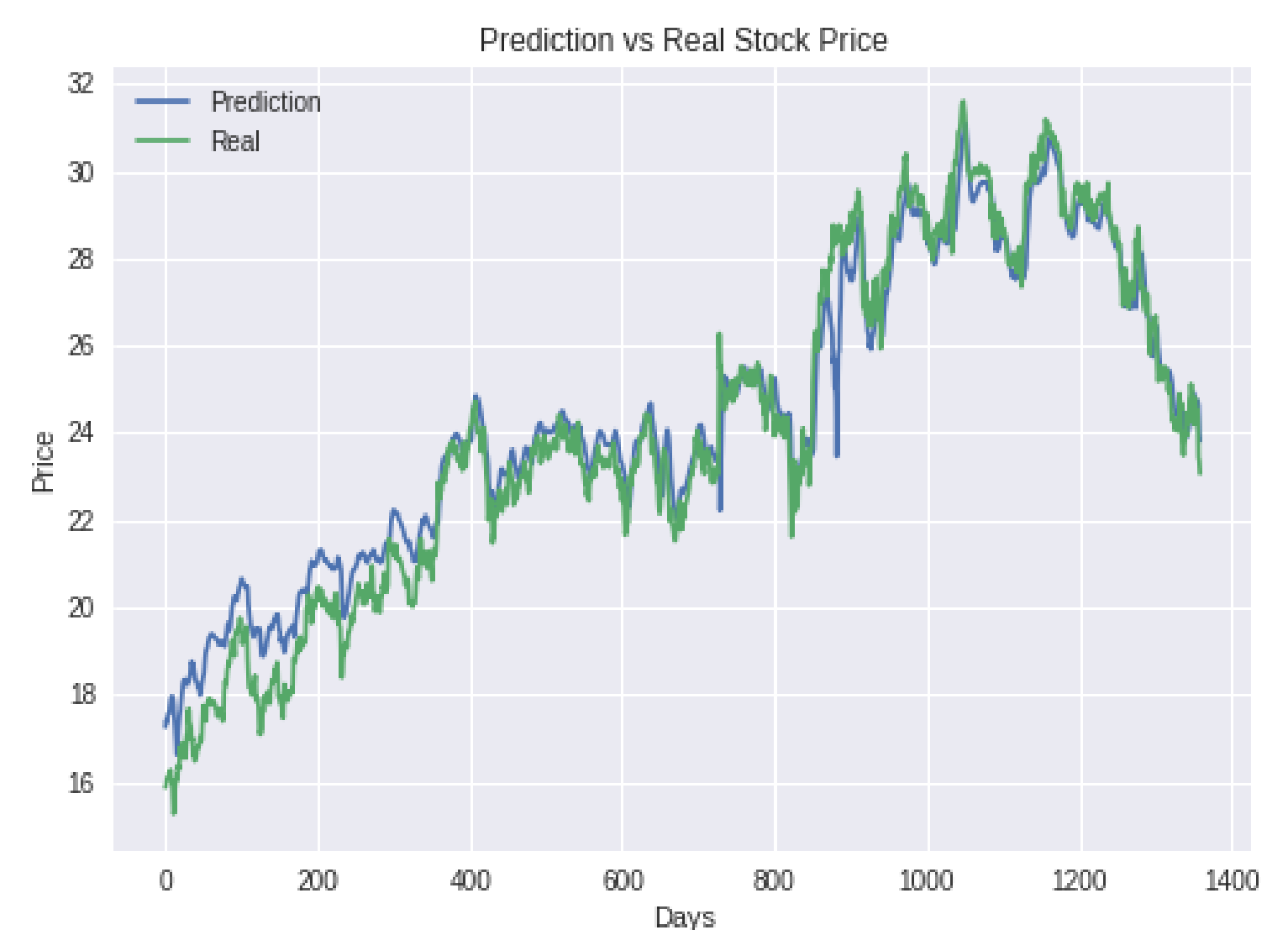
To tackle this problem we performed Multivariate time series analysis using deep learning techniques .

Techniques



We used Historical data of stock prices(i.e. Open Price, High Price, Low Price, Close Price) of various companies. We created a windowed dataset comprising of 5 time-steps of 1 day each which was feeded as input to first layer of a two layer LSTM(Long-Short Term Memory) Model. The first layer outputted a sequence of values which was feeded as input to dense layer of the model which finally predicted the four parameters of next day stock price. Then we used a feedback system to fine tune the weights of model by creating a window of last 20 days. This feedback model assigned large weight to present day so that as time passes by our model remains updated with present scenario of stock market.

Results



The above plot shows the real stock price vs predicted stock price

Conclusion

- 1.The initial lstm model performed very well on the test data .
- 2.Further using the feedback system with lstm model the new model was able to predict the stock prices with high accuracy.
- 3.The feed back system makes sure that our model is always up-to-date with current scenario of stock market.