

STOCK MARKET PREDICTION AND ANALYSIS

PITCH DECK BY :

BIT
CODER

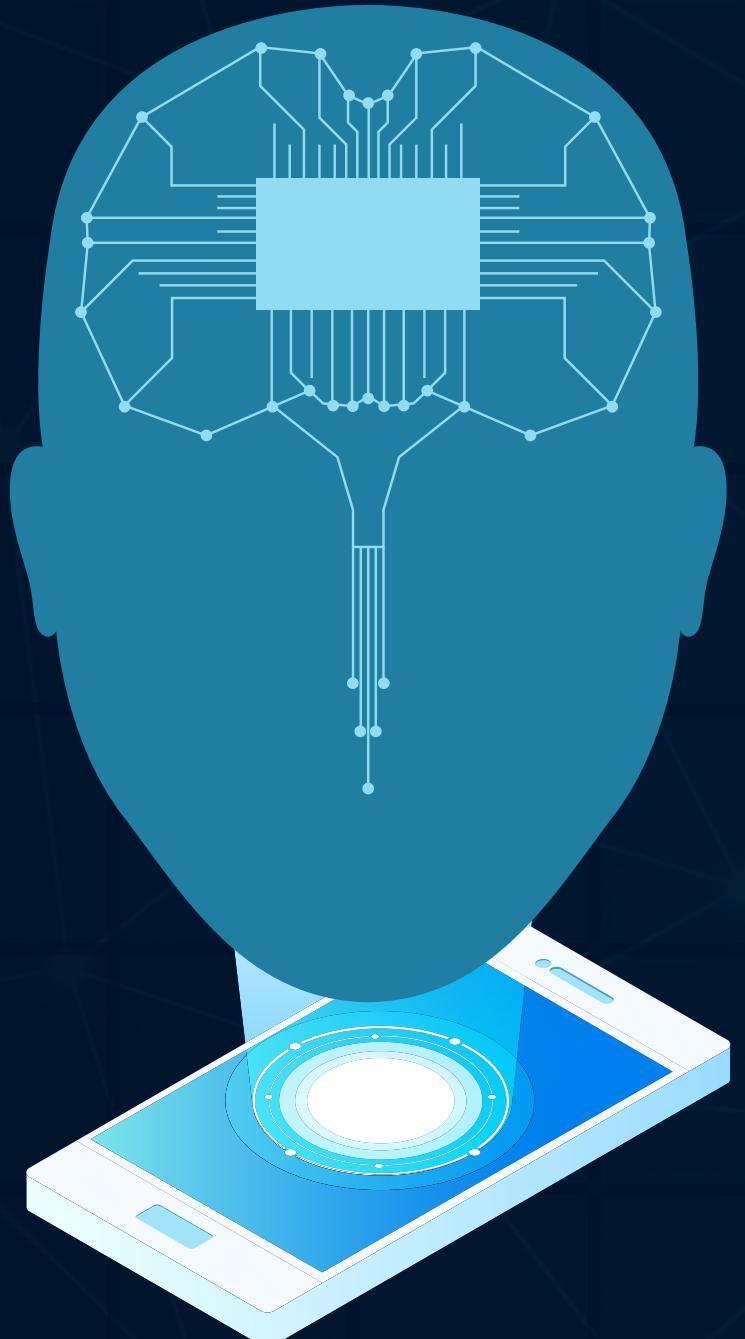


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INTRODUCTION

As financial institutions begin to embrace artificial intelligence, machine learning is increasingly utilized to help make trading decisions. Although there is an abundance of stock data for machine learning models to train on, a high noise to signal ratio and the multitude of factors that affect stock prices are among the several reasons that predicting the market difficult. At the same time, these models don't need to reach high levels of accuracy because even 60% accuracy can deliver solid returns. One method for predicting stock prices is using a long short-term memory neural network (LSTM) for times series forecasting.

01

PROBLEM

By use of various tools and techniques we have to create a website or application on which we can analyze data for various stock markets, not just the Indian Stock Market. And also can upload custom MS Excel sheets of data and analyze the data and also can download the data in form of an Excel sheet. There should also be predictions based on data that how the market will perform in the future.

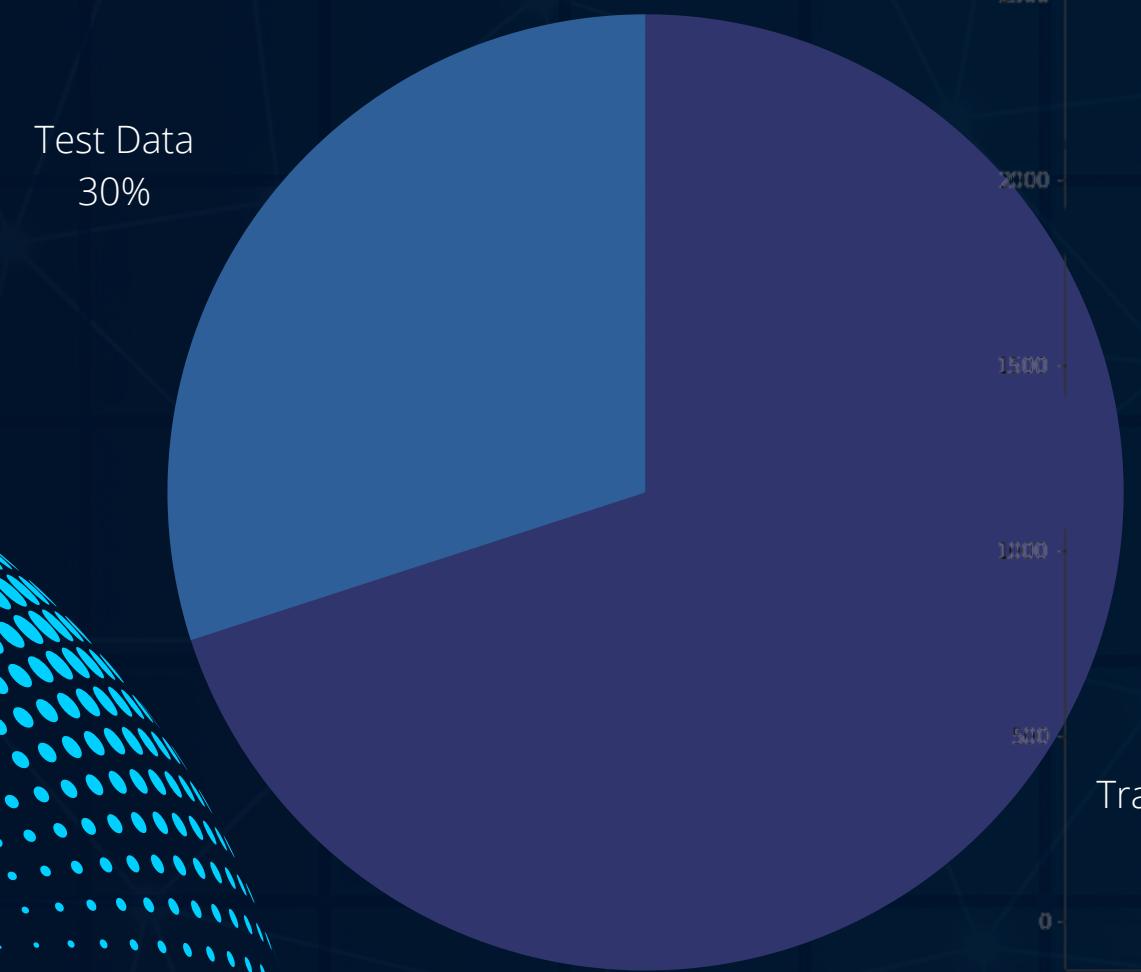




OUR MODEL

ABOUT DATASET

Here orange graph is the training dataset and the green graph has the test dataset which is in the ratio of 70:30.



PROCESS



First, we download data or scrape data from finance which is the website of yahoo so that we can make changes in data and use it to train the model on top of it.



After it, we do some pre-processions and train the TensorFlow Keras model on top of it which takes approx more than 20 minutes.

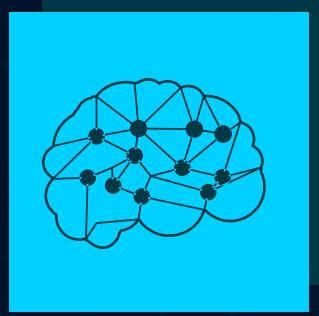


In the end here comes the deployment part and we deployed our model by using streamlit in this we integrated HTML with python to work in real-time to work in user input.



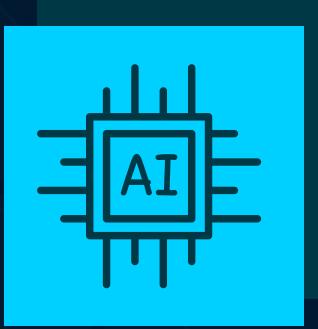


TOOLS USED



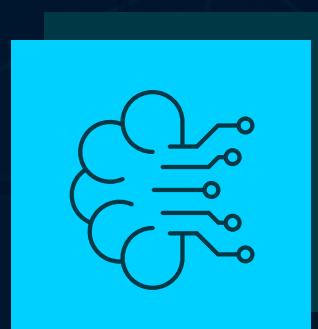
YFINANCE

From here we used to scrape data and used it in my model/



PYTHON

I mainly used python as a main language and used tensorflow keras on top of it to train the model.



STREAMLIT

We used streamlit to deploy our Machine learning model to give us ease to select stock and describe, visualize and train the model and give the final result





DATA INPUT AND OUTPUT

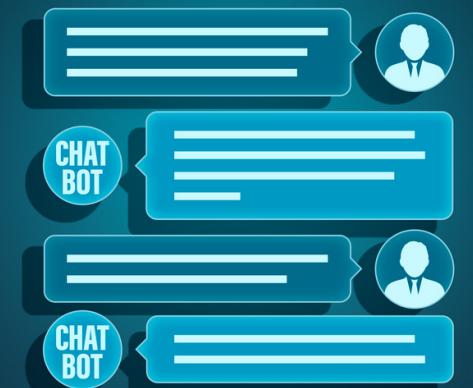
DATA INPUT

Here we only give yfinance stock name as input and all the work from downloading, pre-processing, and model training is done by the code itself.

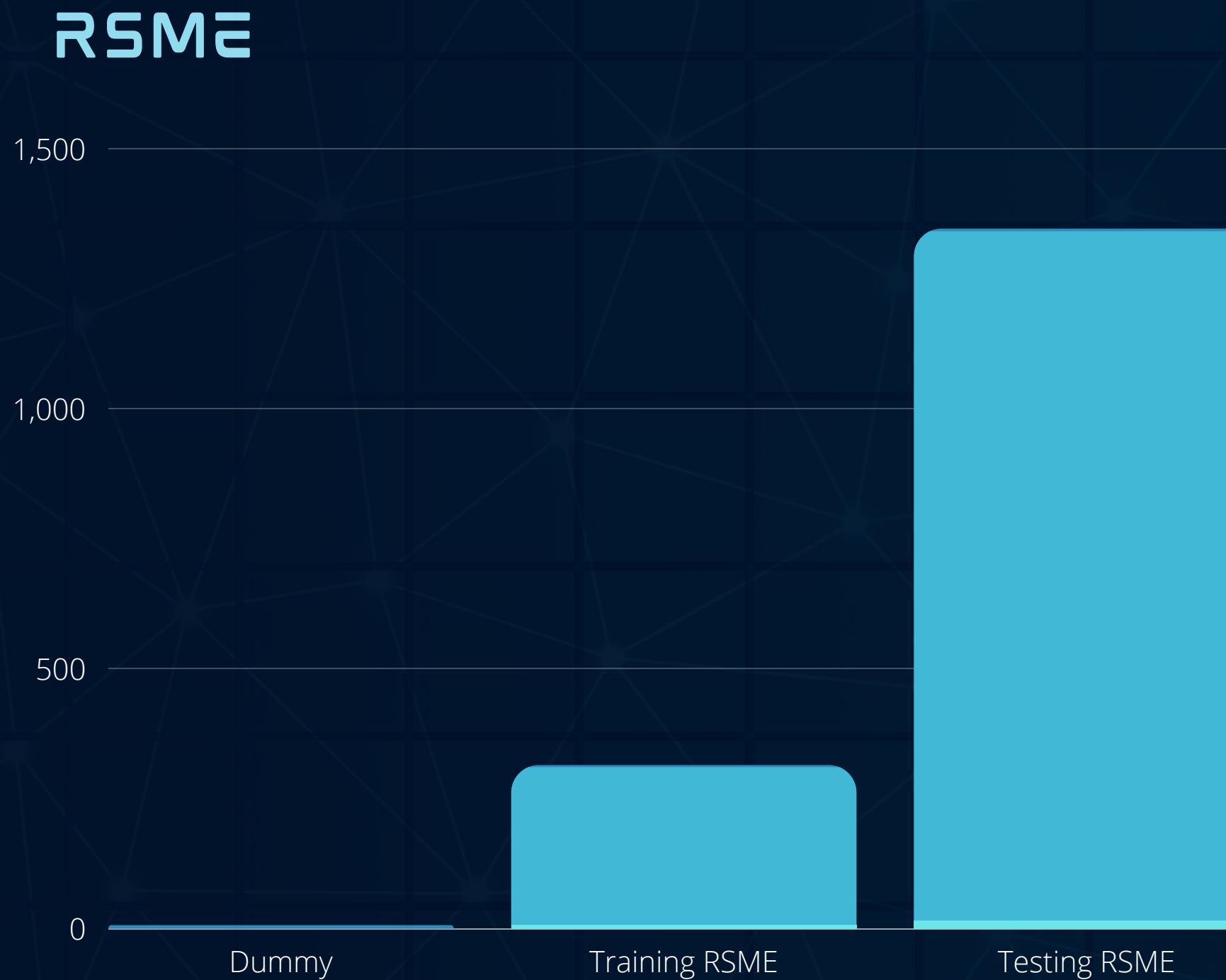
DATA OUTPUT

Hereafter giving input I asked for 2 types of input:

- Cleaned Company Stock data in CSV file to train the model on top of it.
- TensorFlow Keras model so we don't have to train model again and again.



ACCURACY



301.7

We got Train RSME as 301.7 which is very good for our model by the way training RSME is always less.

1325.4

We get Testing RSME as 1325.4 which is low from the training data bit it is also very impressive considering our model.

USAGE IN MARKET



INDIAN MARKET

I have tested this model on Indian stocks like LIC, Reliance, Zomato, and IRCTS and it works perfectly fine here.



US MARKET

I have also tested this model on Indian stocks like apple, google, tesla and Microsoft and in this also it works perfectly fine here.



ALL MARKETS

So, we can assume that this model will perform and give a very good result in most of the stock markets.



CONCLUSION

Most of the stock market around the globe works in very similar manner and behave similarly.



MYSELF

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THANKS!

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