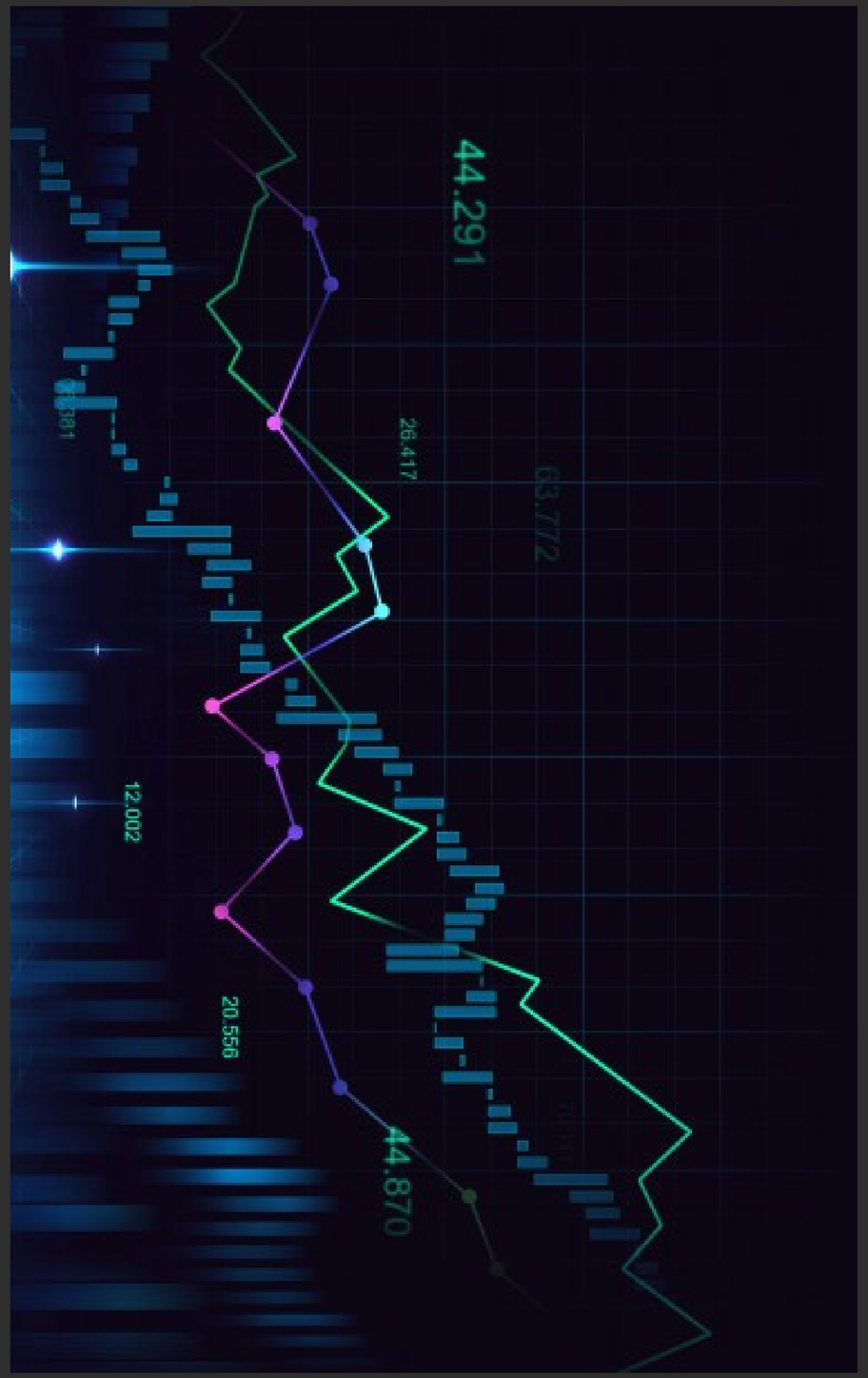

PROJECT EXHIBITON

INDEX PRICE PREDICTOR

GROUP-37

GUIDED BY:
MR.SANDEEP SAHU

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INTRODUCTION

- Index trading is defined as the buying and selling of a specific stock market index.
- Investors will speculate on the price of an index rising or falling which then determines whether they will be buying or selling.
- When the price of shares for the companies within an index go up, the value of the index increases.
- If the price instead falls, the value of the index will drop.

EXISTING WORK

- NOWADAYS WE CAN FIND EXISTING WEBSITES WHICH PREDICTS THE STOCK PRICE(DETAILED AND ACCURATE INFORMATION ABOUT THE FINANCIAL CONDITION AND PERFORMANCE IN THE LAST FEW YEARS)
- BUT INDEX PRICE PREDICTOR IS FOUND NOWHERE ,WHICH USES AN ALGORITHM TO ANALYZE A PRODUCT OR SERVICE BASED ON ITS CHARACTERISTICS, DEMAND, AND CURRENT MARKET TRENDS.

LIMITATIONS

- Our website is not able to predict the candlestickpattern of index, it predicts only the graphical representation.
- We need to predict index using its ticker(nickname of stocks) name which might be difficult to understand by some users.

PROPOSED WORK AND METHODOLOGY

- Here,an attempt is made to predict the stock market trend using a culmination of predictive modelling and regression algorithms.
- The values of the data sets are plot on a chart and regression and clustering techniques are applied to find out the increase or decrease in price of that stock.
- Based on the calculation, this model extrapolates the current stock prices to generate a prediction after a given time.

METHODOLOGY

HOW TO COLLECT INPUT DATA?

Input data is taken from Yahoo Finance using following steps:

1. For our project, we are considering S&P 500 Companies.
2. Use stock’s ticker symbol from step a to get data from Yahoo Finance.
3. System will take last 2 years’ stock data of the company using quantmod package in R.
4. Further we divide the data into two parts, training data and testing data, where 75% of
the data will be used for training and 25% of the data will be used for testing.

HOW TO SOLVE THE PROBLEM?

We will solve the problem using supervised learning techniques to build our model

NOVELTY OF THE PROJECT

- Our predictor can predict the last 10 years of data
- Our accuracy level analysis is 80%
- We have just used 2 technology we have done it with ML for web development.
- Our project's code is easy for a typical developer to understand

REAL TIME USAGE

Stock Price Prediction using machine learning helps you discover the future value of company stock and other financial assets traded on an exchange.

The entire idea of predicting stock prices is to gain noteworthy profits.

HARDWARE AND SOFTWARE REQUIREMENTS

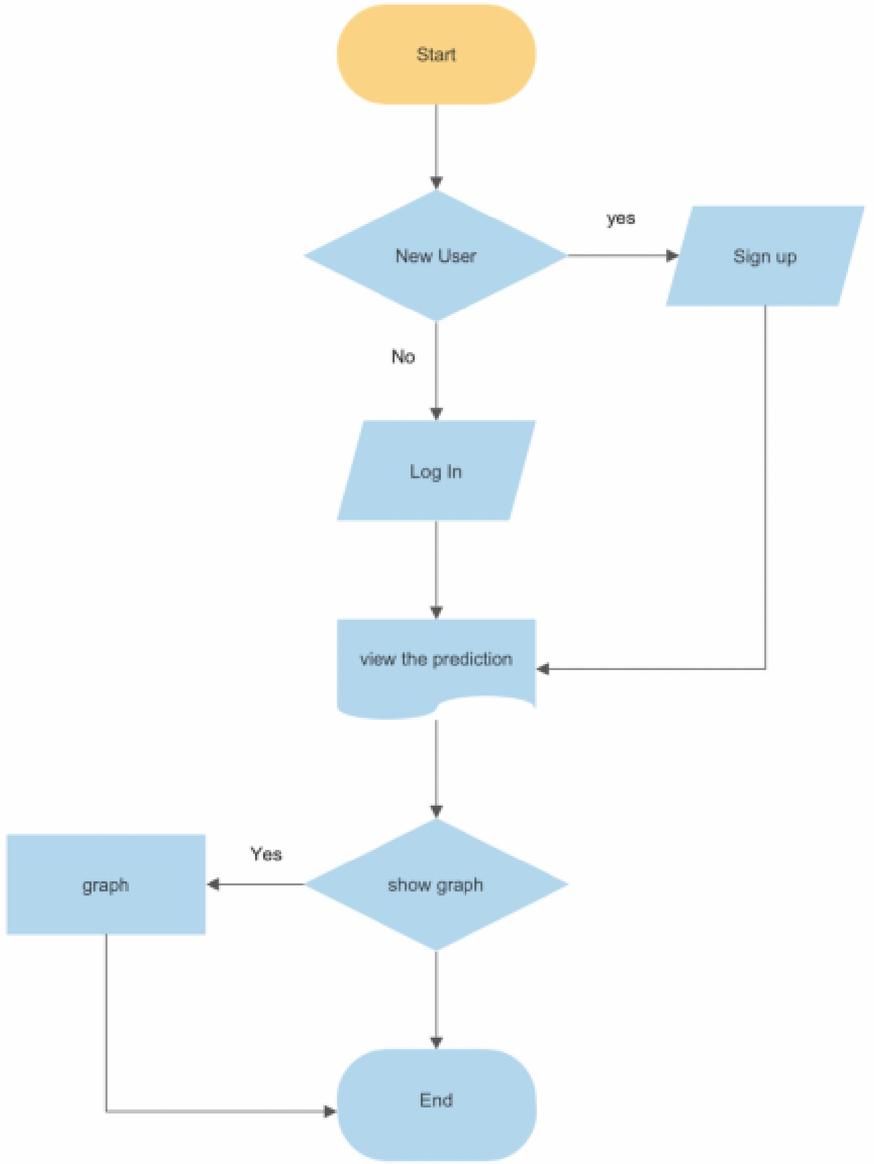
Hardware Requirements:

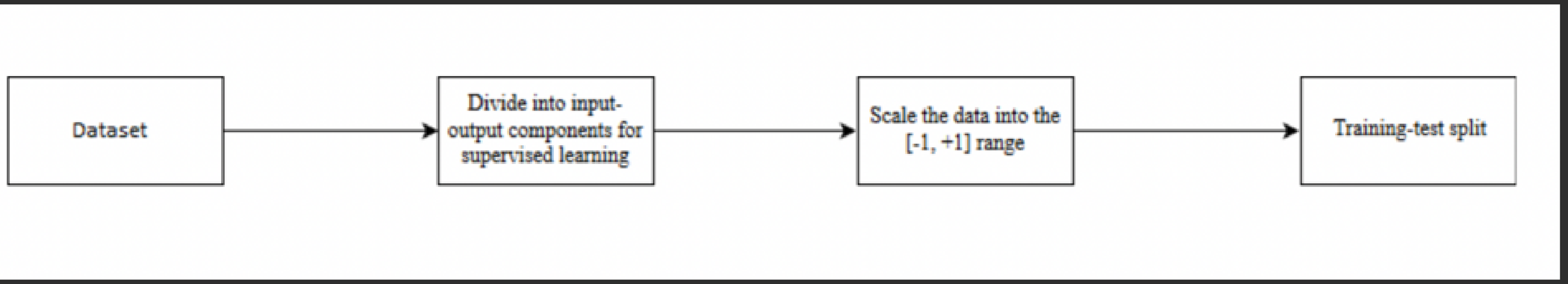
RAM: 4 GB
Storage: 500 GB
CPU: 2 GHz or faster
Architecture: 32-bit or 64-bit

Software Requirements:

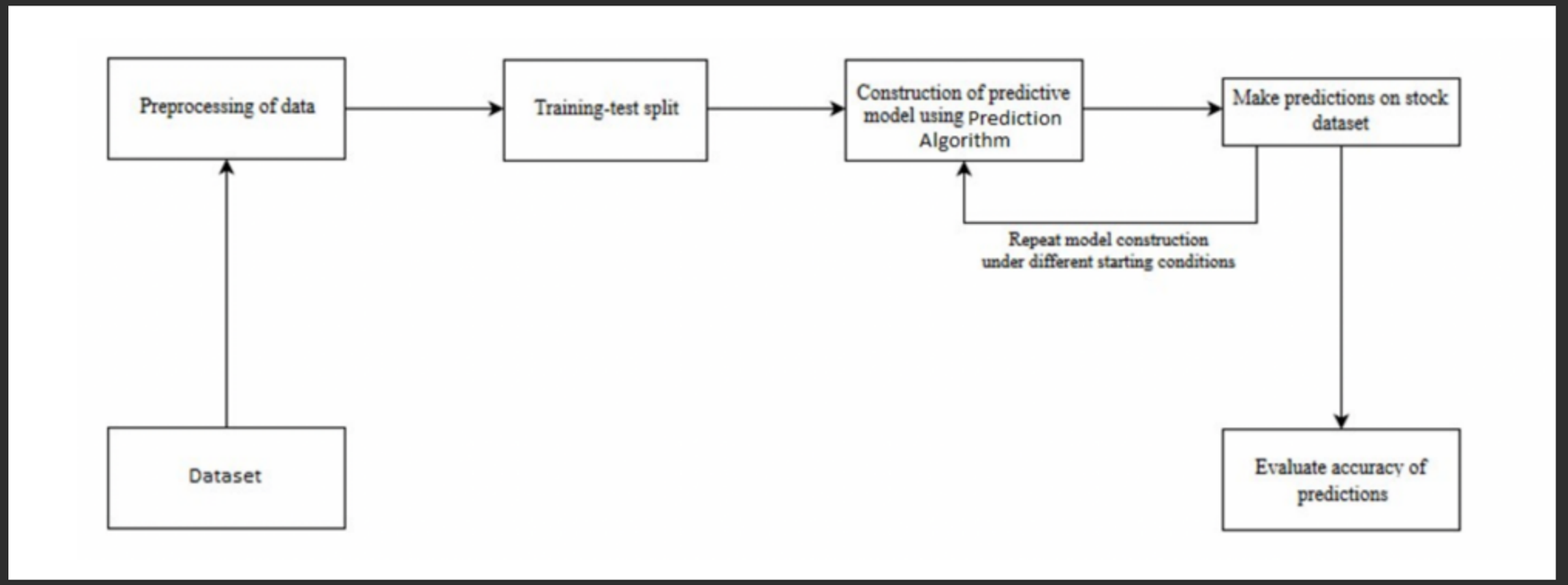
Python 3.5 in Google Colab
Operating System: windows 7 and above or Linux based OS or MAC OS

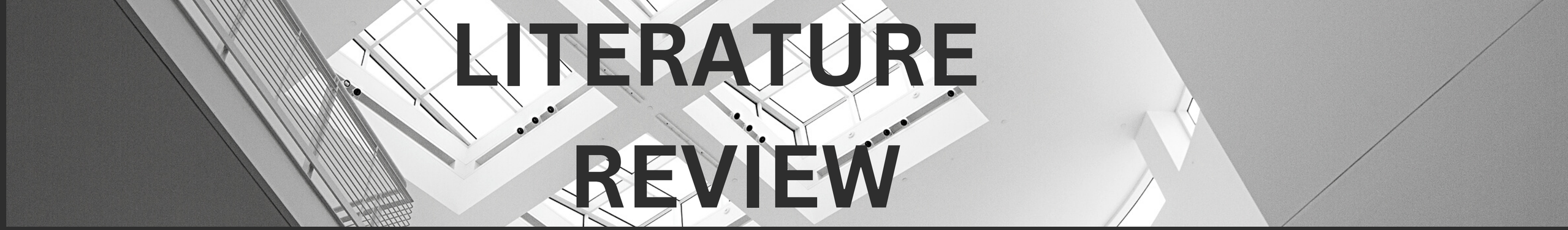
OVERALL SYSTEM ARCHITECTURE DIAGRAM





OVERALL ARCHITECTURE





LITERATURE REVIEW

Stock market prediction is an act of trying to determine the future value of a stock other financial instrument traded on a financial exchange. The technical and fundamental or the time series analysis is used by the most of the stockbrokers while making the stock predictions. The programming language is used to predict the stock market using machine learning is Python.In this context this study uses a machine learning technique called Support Vector Machine (SVM) to predict stock prices for the large and small capitalizations and in the three different markets, employing prices with both daily and up-to-the-minute frequencies.

Three artificial intelligence techniques, namely, neural networks (NN), support vector machines and neuro-fuzzy systems are implemented in forecasting the future price of a stock market index based on its historical price information. Artificial intelligence techniques have the ability to take into consideration financial system complexities and they are used as financial time series forecasting tools.

Two techniques are used to benchmark the AI techniques, namely, Autoregressive Moving Average (ARMA) which is linear modelling technique and random walk (RW) technique

MODULE DESCRIPTION

We are using different packages and modules for implementation of our project our project is based on web development and machine learning for Web part we are using some packages like bootstrap , XAMPP control panel and for ML part we are using NUMPY , PANDAS , PANDAS_DATAREADER , matplotlib, sklearn.preprocessing ,keras

MODULE WORK FLOW EXPLANATION

- Bootstrap

Bootstrap is a free, open source front-end development framework for the creation of websites and web apps. Designed to enable responsive development of mobile-first websites, Bootstrap provides a collection of syntax for template designs.

- XAMPP

XAMPP helps a local host or server to test its website and clients via computers and laptops before releasing it to the main server.

- **NUMPY**

NumPy is a Python library that provides a simple yet powerful data structure: the n-dimensional array. This is the foundation on which almost all the power of Python’s data science toolkit is built

- **PANDAS**

It takes data (like a CSV or TSV file, or a SQL database) and creates a Python object with rows and columns called data frame that looks very similar to table in a statistical software .

- **MATPLOTLIB**

This way of working helps to keep work well organized, with readable history. This in turn makes it easier for project maintainers (that might be you) to see what you've done, and why you did it.

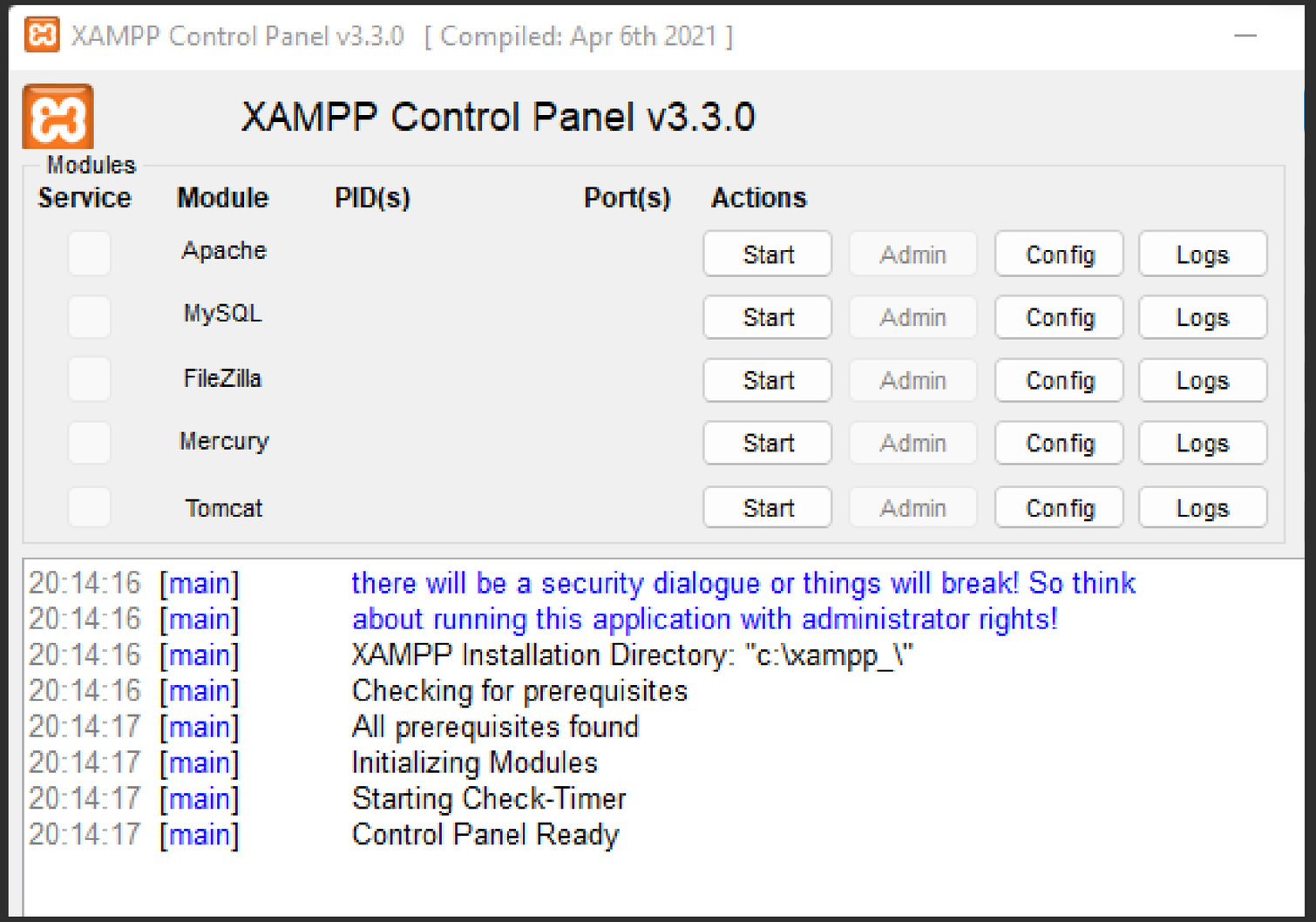
- **KERAS**

Define the training data
Define a neural network model
Configure the learning process
Train the model

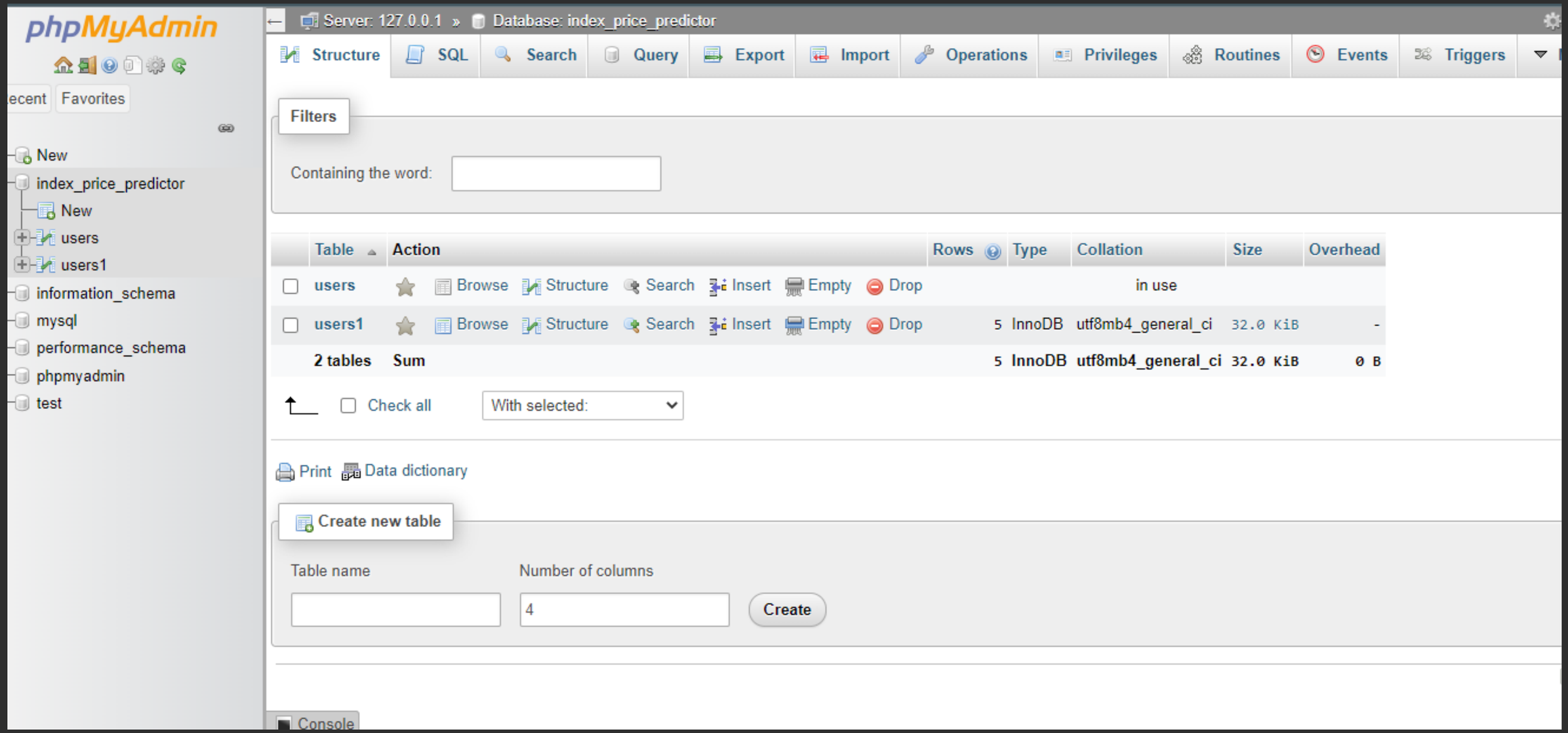
IMPLEMENTATION AND CODING

For front-end development we are using HTML , CSS , JS , PHP and for back-end development we are using PHP , MYSQL , PHPMYADMIN , XAMPP SERVER , APACHE SERVER . we are using VS code and jupyter for implementation of our code and streamlit for hosting our ML part .

LET'S OPEN VS CODE AND UNDERSTAND THE CODE !



XAMPP SERVER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New
index_price_predictor
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users
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information_schema
mysql
performance_schema
phpmyadmin
test
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Structure
SQL
Search
Query
Export
Import
Operations
Privileges
Routines
Events
Triggers
Filters
Containing the word:
Table
Action
Rows
Type
Collation
Size
Overhead
users
Browse
Structure
Search
Insert
Empty
Drop
in use
users1
Browse
Structure
Search
Insert
Empty
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Check all
With selected:
Print
Data dictionary
Create new table
Table name
Number of columns
4
Create
Console

Phpmyadmin

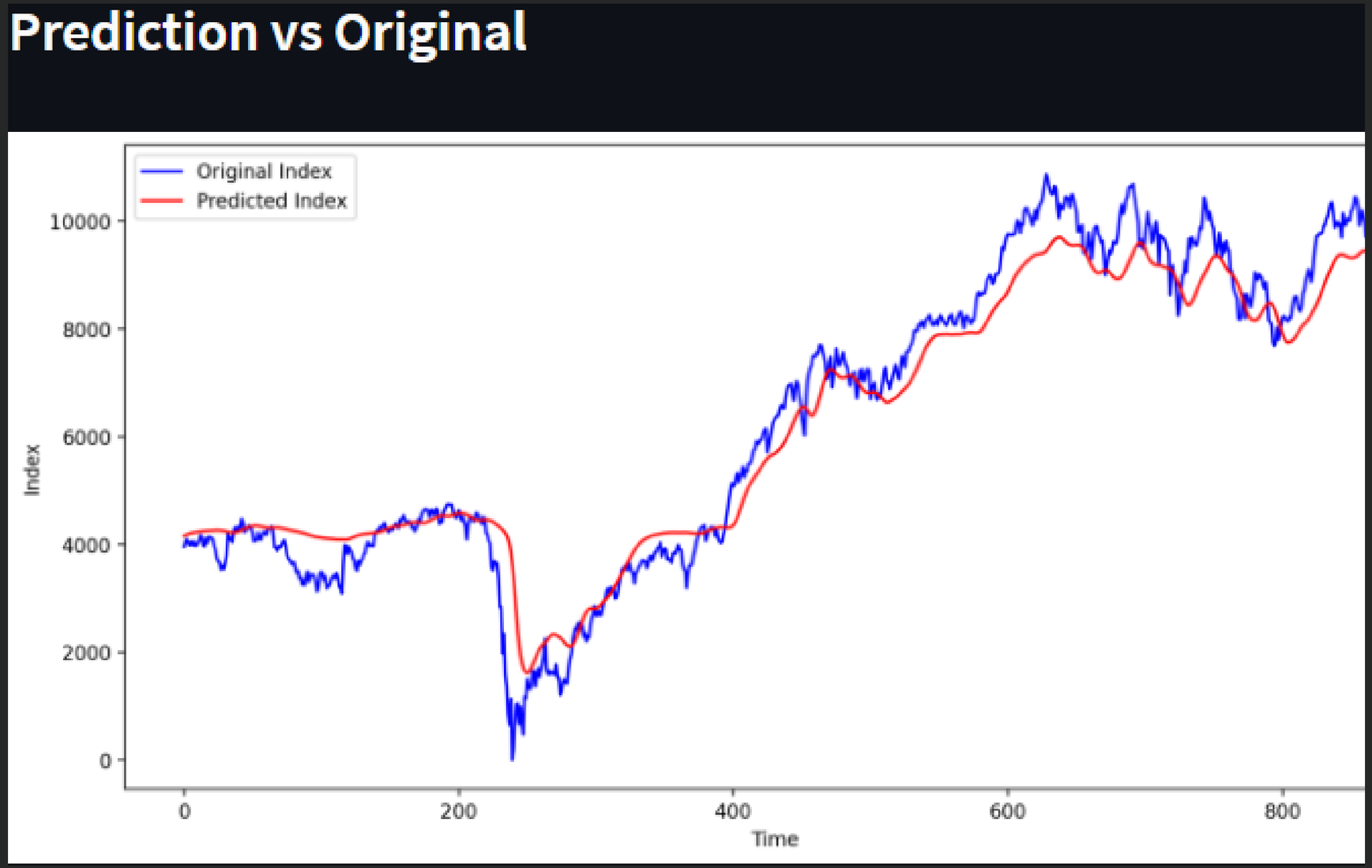
DEMO VIDEO

Click on the link below to watch demo video

https://drive.google.com/file/d/1vHw2bGZl-rFROPYIyb8CMhVWyNxnqAr1/view?usp=sharing

SNAP SHOT OF PROJECT

RESULT AND DISCUSSION



CONCLUSION

In this project, we are predicting closing stock price of any given organization, we developed a web application for predicting close stock price using LSTM algorithms for prediction. We have applied datasets belonging to NIFTY50 and achieved above 95% accuracy for this
dataset.

THANK YOU

Must visit :-

http://localhost/index_price_predictor/final_folder/home page.html