NVIDIA Stock Price Prediction using LSTM

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Contents

Roles / Responsibilities and Contributions

1

Group Member / Individual

- Manoj Bala

2

Roles / Responsibilities

- Business Analyst
  - NVIDIA's Stock price prediction requirements
- Data Engineer
  - Data collection, cleaning, exploratory data analysis, visualizations
- Data Scientist
  - Model Building, Data Visualizations
- Documentation

3

Contributions

- Project Proposal
- Data Collection – Yahoo Finance (API)
- Data Cleaning
- Data Preprocessing
- Model Creation
- Fitting
- Predictions
- Visualizations
- Project Report
- Project Presentation

Motivation

1

NVIDIA meteoric stock price growth as a GPU maker revolutionizing AI domain

2

Increasing interest in the predictive power of Neural Networks & Deep Learning in finance domain.

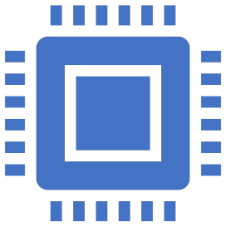
3

NVIDIA critical role in tech and AI fields makes its stock a focal point for investors.

4

The need for more accurate, data-driven investment decisions.

Objectives



To predict the stock price of NVIDIA Corporation using LSTM.

To analyze historical stock data for pattern identification.

To improve investment decisions through accurate forecasting.

Related Work

Machine learning in stock price prediction.

Previous studies using LSTM for financial forecasting.

Gaps in current research and how this project aims to fill them.

Problem Statement

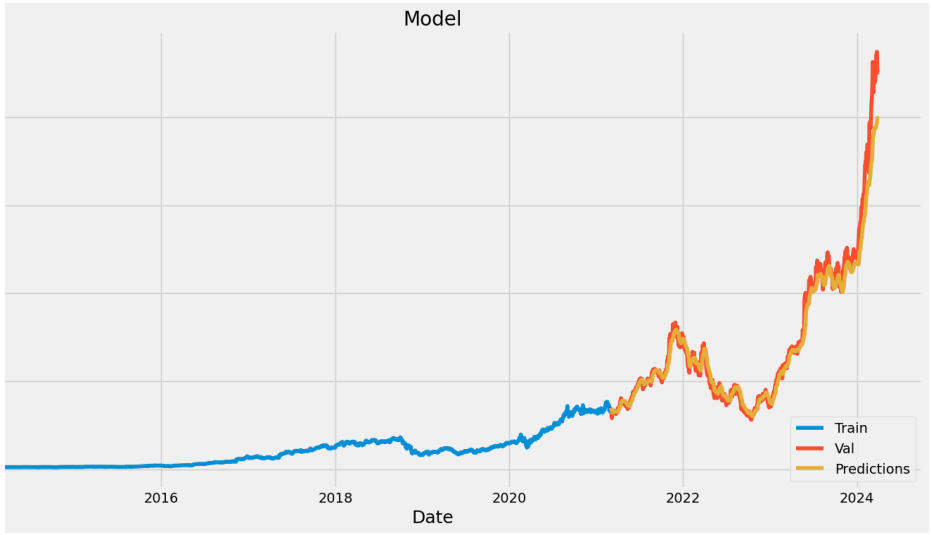
- Traditional models struggle to capture the complexity and volatility of stock prices.
- Lack of accurate prediction models for Nvidia’s stock, considering its growth and market volatility.
- This project aims to develop a predictive model that can predict Nvidia’s future stock price based on its historical data.
- This project leverages Neural Networks & Deep Learning technique like LSTM to construct model, fit data and make predictions.

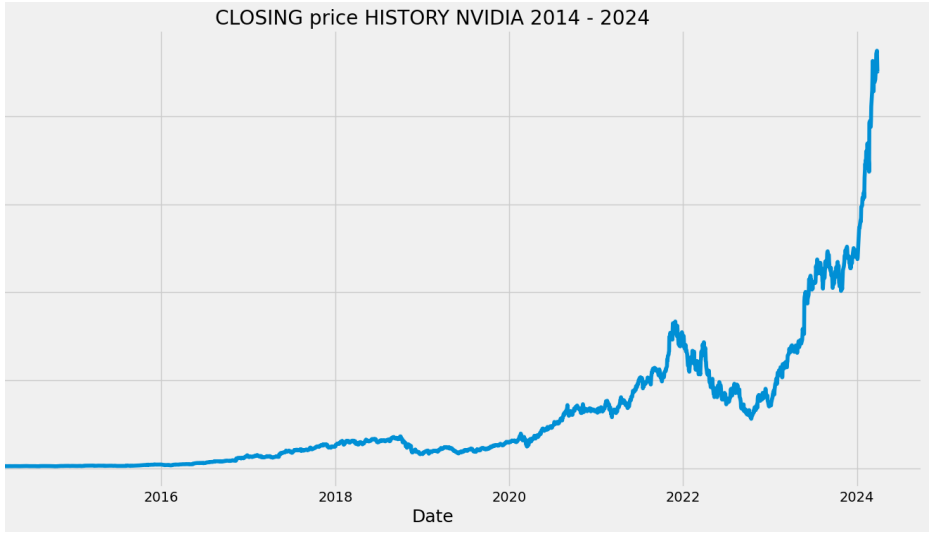
Proposed Solution

- Predict Nvidia’s stock using Neural Networks & Deep Learning technique like LSTM (Long Short Term Memory) neural network.
- Data collected from Yahoo Finance (via API) is cleaned and preprocessed (scaled).
- LSTM model is built, fit and used to make predictions

Result / Simulations

- Model accuracy and comparison with baseline models.
- Model’s predictive capabilities over different time frames.
- Insights and patterns identified through the model's predictions.





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