MICROSOFT STOCK PRICE ANALYSIS

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DATA SCIENTIST

Background:

- Healthcare
- Biopharmaceutical

01. BUSINESS PROBLEM

02. DATA OVERVIEW

03. ANALYSIS & MODEL

04. RECOMMENDATIONS

05. FUTURE RESEARCH

AGENDA

01.

BUSINESS PROBLEM

BUSINESS PROBLEM

- Utilize time-series analysis to analyze Microsoft (MSFT) stock
- Create a reliable model to forecast stock price

MICROSOFT

- PC Software systems and applications
- Founded in 1975
- 37 year Stock history

BOTTOMLINE

Market Confidence

Upward Trend

LSTM Model

02.

DATA OVERVIEW

MSFT Stock Historical Data

- Yahoo! Finance.
- 9524 Observations.
- Closing Stock Price.

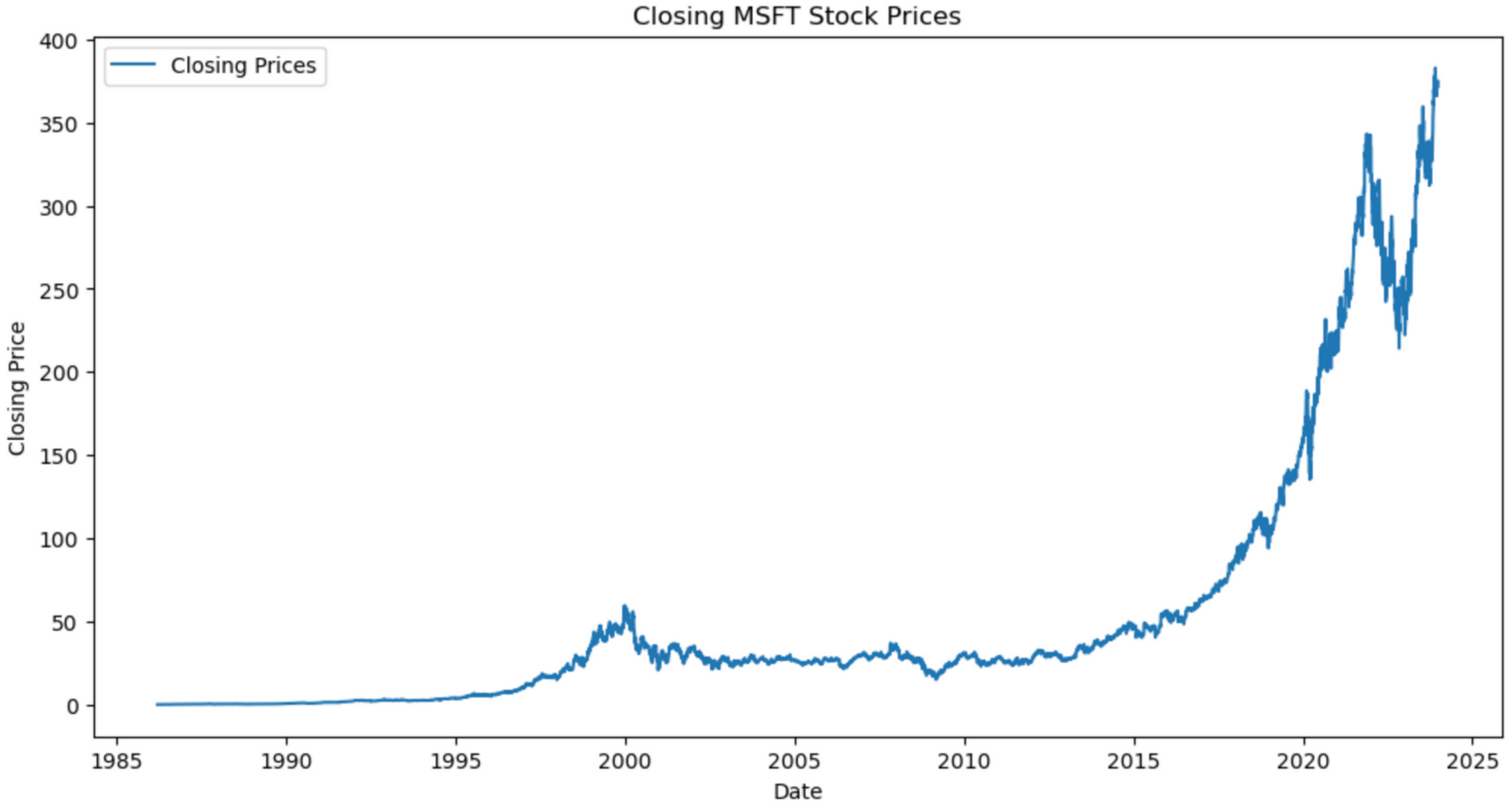
Data Limitations

- No Weekend Observations.
- Sentiments affecting market prices.

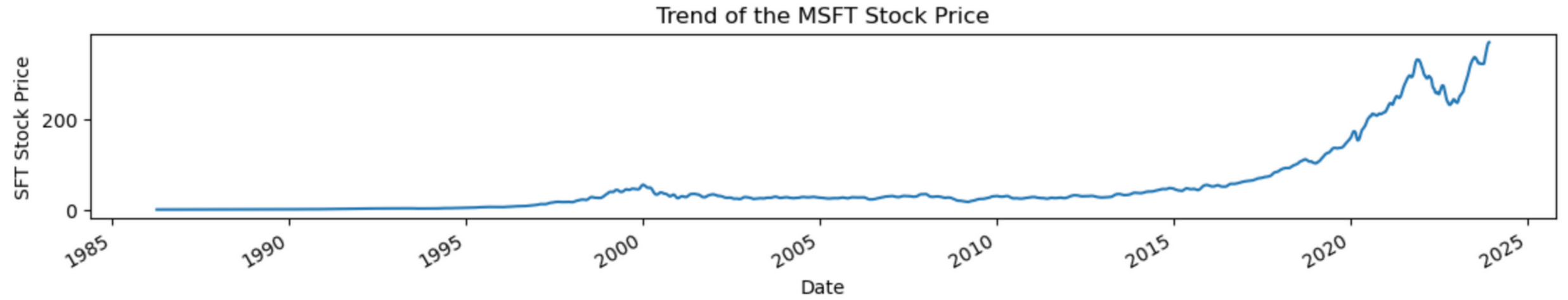
03.

ANALYSIS & MODEL

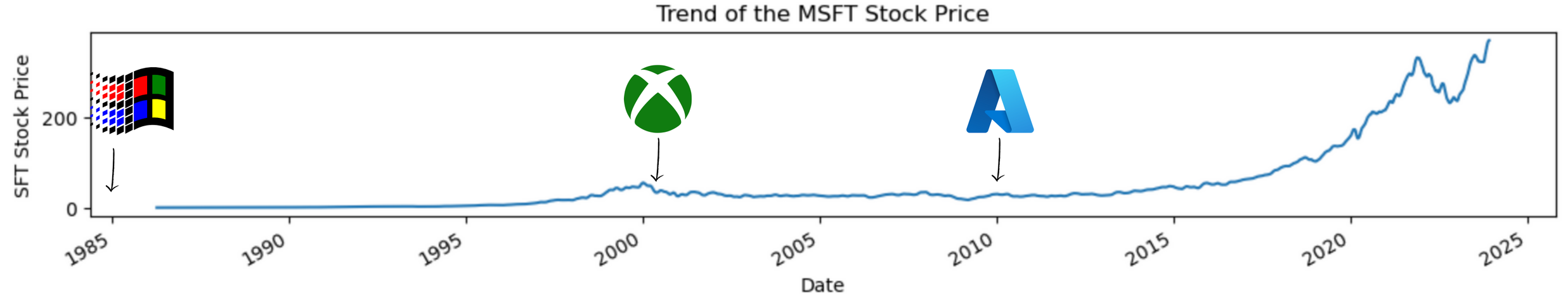
HIGH STOCK PRICE = POSITIVE MARKET PERCEPTION



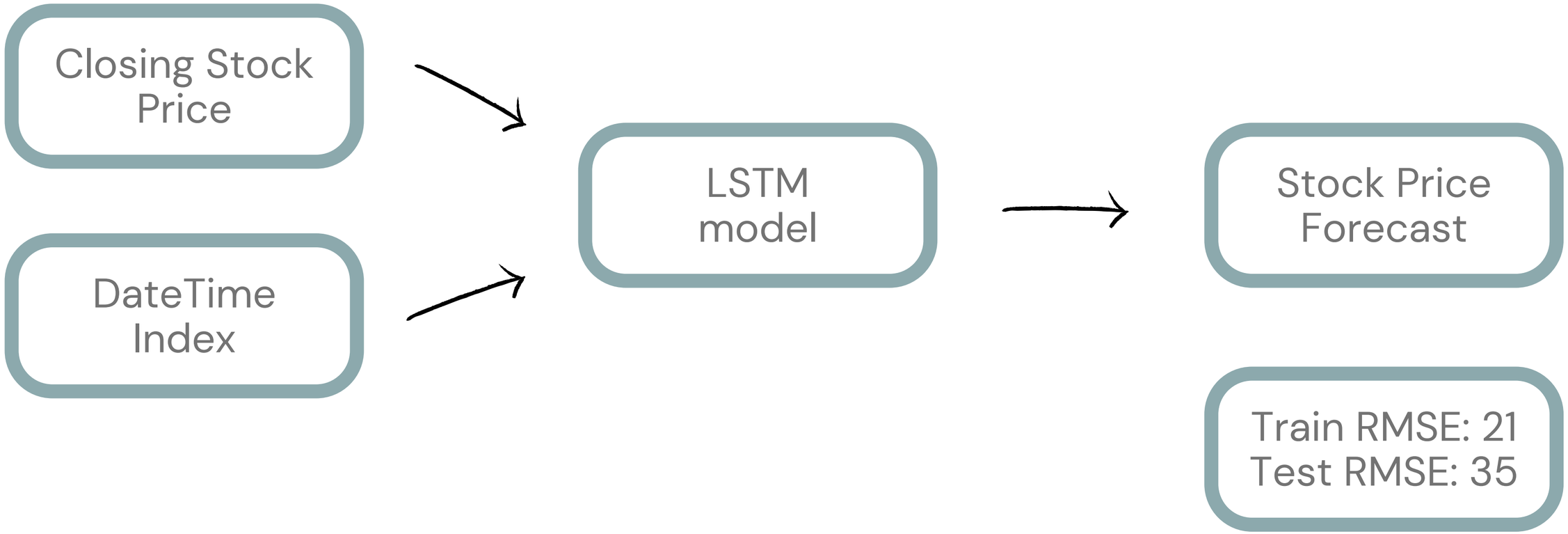
UPWARD TREND IN THE PAST 7 YEARS



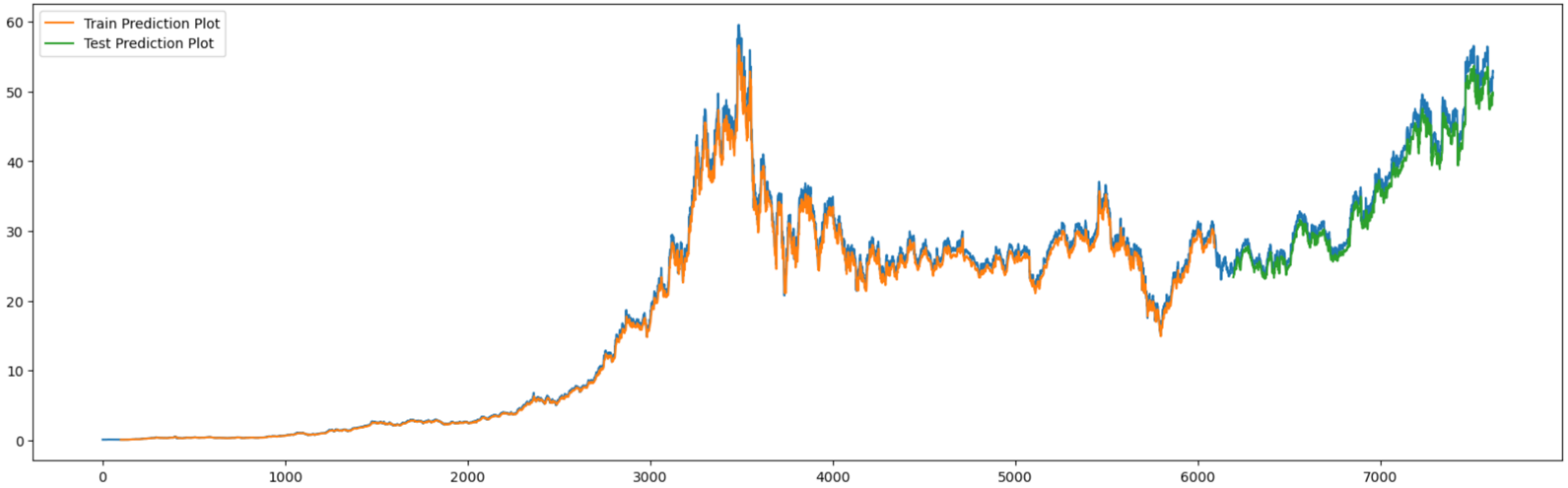
MICROSOFT’S NOTABLE PRODUCTS



LSTM MODEL


Closing Stock Price
DateTime Index
LSTM model
Stock Price Forecast
Train RMSE: 21
Test RMSE: 35

LSTM MODEL



“The mother of all evil is speculation”

04.

RECOMMENDATIONS

SOLUTION

Invest in MSFT stock:

- Market Confidence
- Upward Trend
- LSTM Network Forecasting

PROBLEM

- Utilize Time-Series analysis to analyze MSFT stock

- Reliable Model Forecasting

05. FUTURE RESEARCH

EXTERNAL FACTORS

REAL-TIME FORECASTING

SENTIMENT ANALYSIS

THANK YOU

Have any question?

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