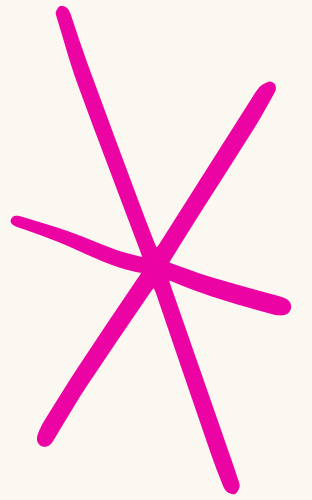
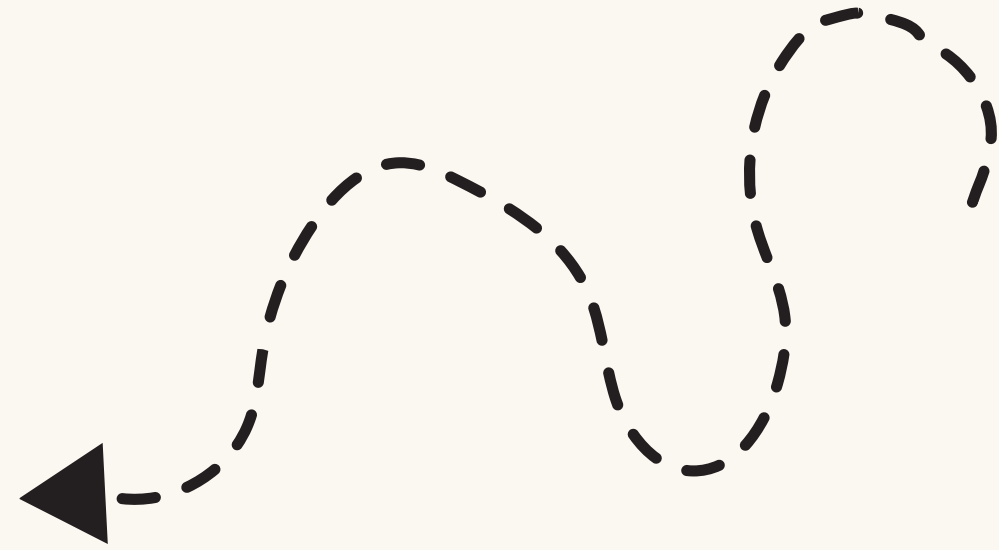




Stock Tweets And Stock Market for Analysis and Prediction

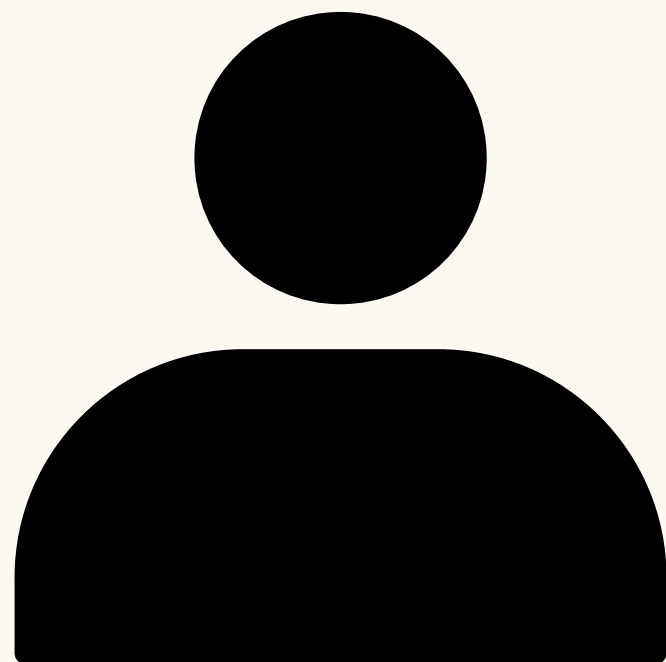
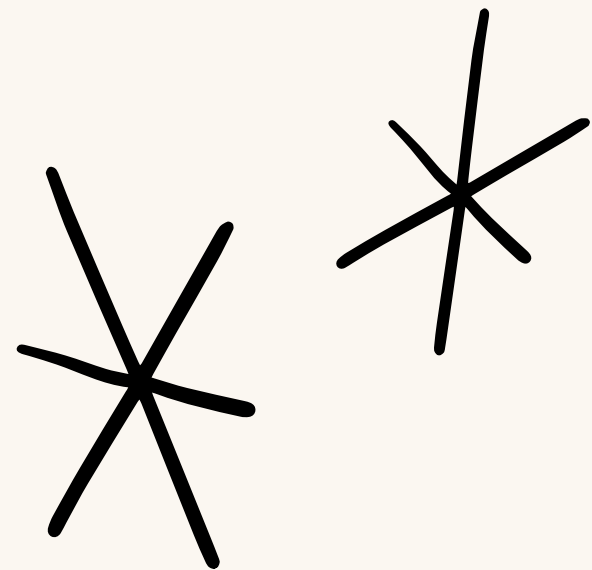




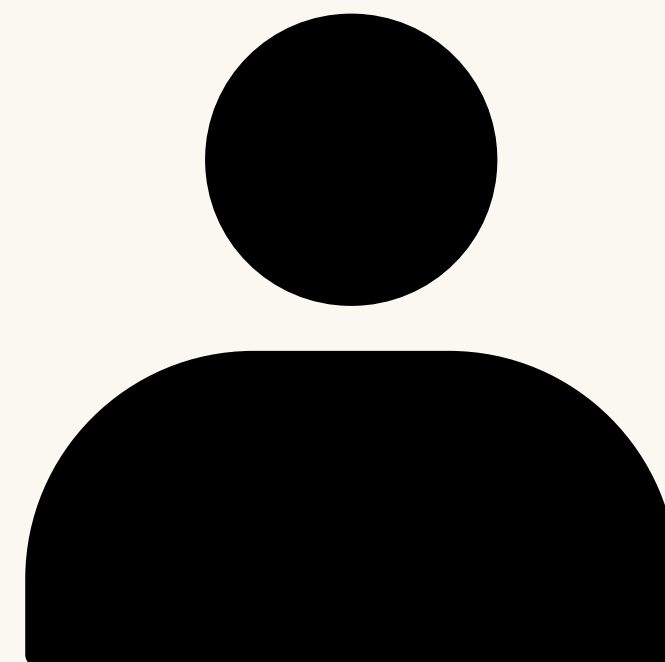
Agenda

1. Problem statement
2. Dataset
3. Approach
4. Results
5. Deployment methodology

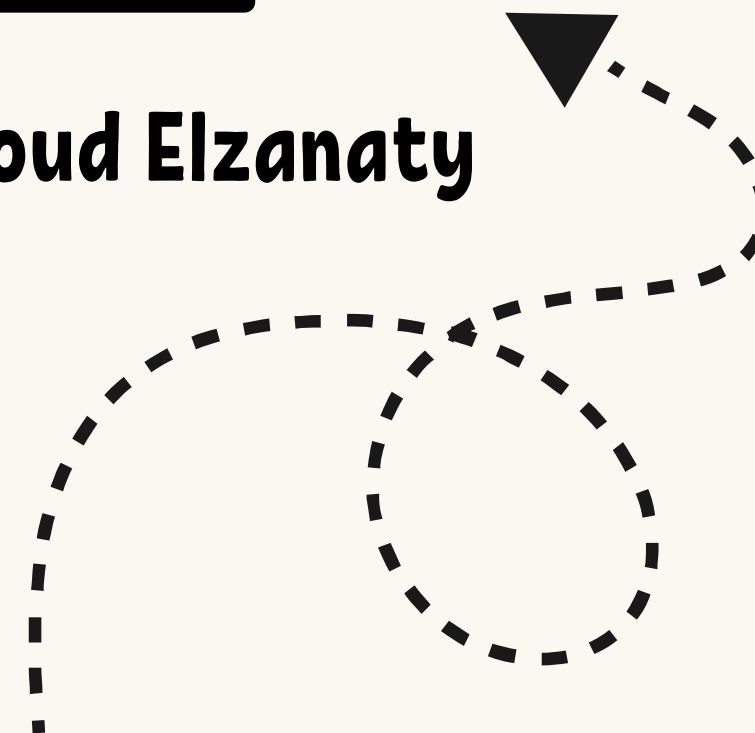
The team



Mayar Ahmed Ali Essa



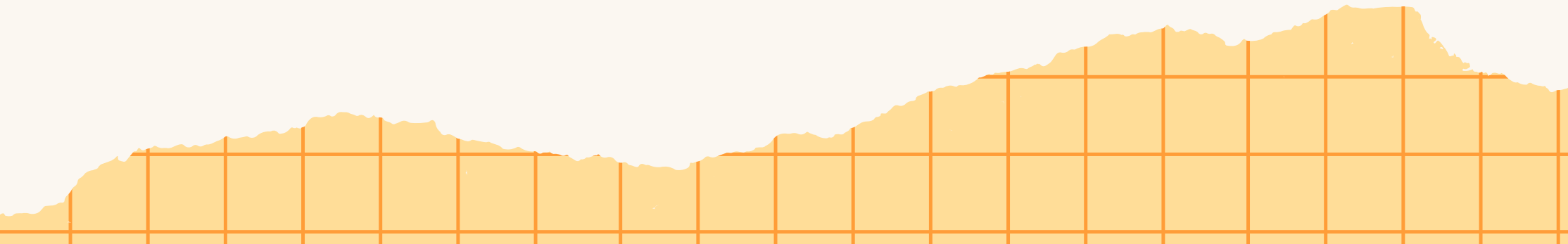

Esraa Mahmoud Elzanaty





Problem Statement

The goal of this project is to analyze the correlation between social media sentiment (tweets) and stock price prediction , and to develop a predictive model for future stock prices. By leveraging sentiment analysis on stock-related tweets, we aim to determine whether public sentiment on social media influences stock market behavior



Data Set



Source The dataset is hosted on Kaggle.

Data Splitting Training data 80% of the dataset, testing data 20% of the dataset and Validation Data The testing data (X_test, y_test) is used during training to monitor performance.

stock_tweets.csv

Size: 80793 rows

Shape: The dataset has 4 columns: Date, Tweet, Stock Name, Company Name

Columns:

Date: The date the tweet was posted.

Tweet: The content of the tweet.

Stock Name: The ticker symbol for the stock (e.g., AAPL for Apple).

Company Name: The full name of the company related to the tweet.

stock_yfinance_data.csv

Size: 6300 rows

Shape: The dataset has 8 columns: Date, Open, High, Low, Close, Adj Close, Volume, Stock Name

Columns:

Date: The date of the stock market data.

Open: Opening price of the stock.

High: Highest price of the stock during the day.

Low: Lowest price of the stock during the day.

Close: Closing price of the stock.

Adj Close: Adjusted closing price (takes into account dividends, stock splits).

Volume: Number of shares traded.

Stock Name: The ticker symbol for the stock.

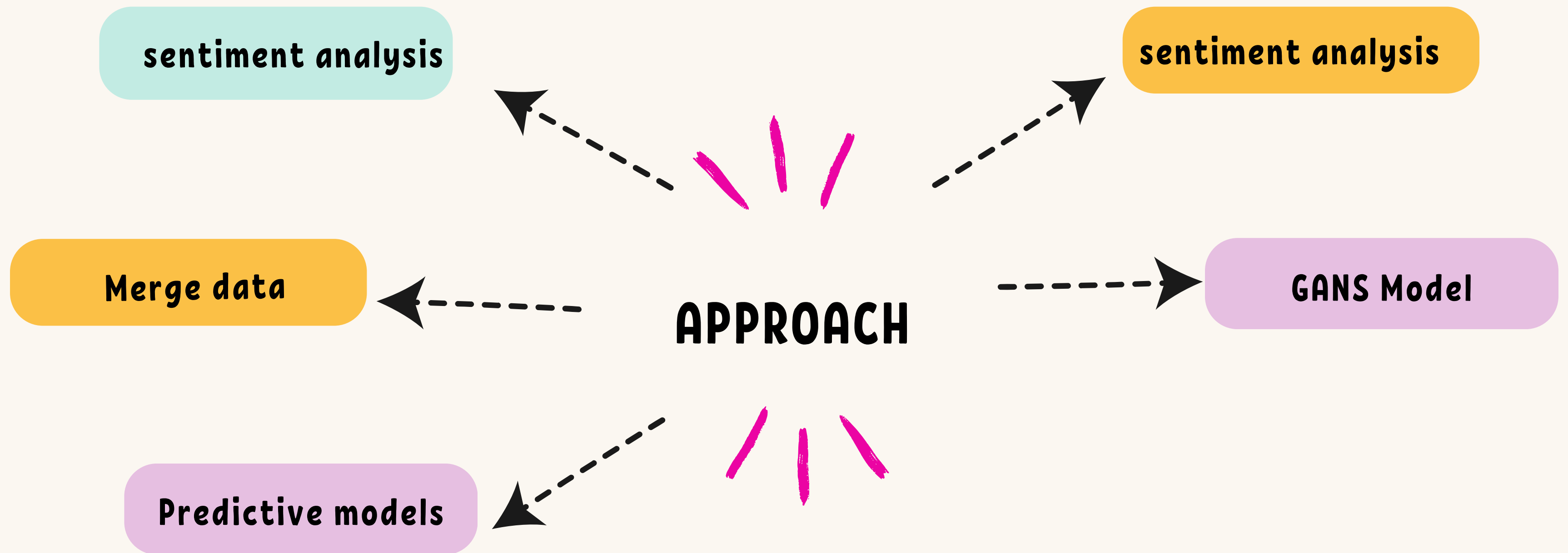
Stock Sentiment

Introduction

Stocks Sentiment dataset contains text, Tweets, related to changes in Stock prices and its other necessary statistics like whether the customer is willing to buy or sell the stocks.

Data Info

There are Two columns in the dataset representing Text and its respective sentiment regarding Stocks.

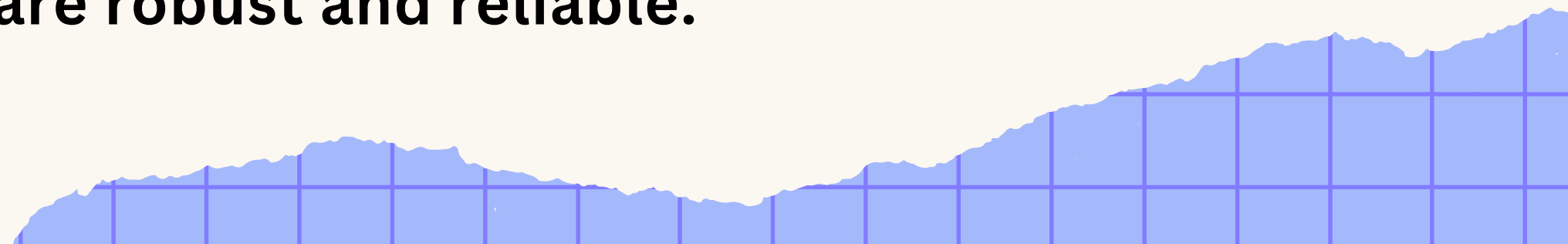


Results

The impact of sentiment analysis on stock price prediction accuracy may not be significant across all stocks. However, in certain cases, incorporating sentiment analysis does enhance the predictive accuracy of the models. It's important to note that the accuracy of predictions varies by stock; each stock demonstrates its own unique level of predictive accuracy.

To evaluate the effectiveness of sentiment analysis, I will compare the performance of models that utilize sentiment data against those that do not. Specifically, I will employ Support Vector Machine (SVM) and Gated recurrent unit (GRU) models to predict closing prices, both with and without the inclusion of sentiment analysis features.

Ultimately, I will select the model with the highest accuracy for each stock, ensuring that the final predictions are robust and reliable.



Deployment

Stock Price

Enter date

Stocks Visualization

mm/dd/yyyy



Select Stock



Get Stock Data

Close price value

Stock Visualization

Enter date

Stocks Visualization

Visualize Stock Prices

Select Stock:

TSLA



Generate Plot

Stock Price Plot

MSET Close Price History

Deployment

Stock Price Prediction for Tesla

Number of Future Days

5

Clear

Submit

output

Day 1: 163.55584716796875
Day 2: 163.66912841796875
Day 3: 163.21212768554688
Day 4: 161.86326599121094
Day 5: 161.3495330810547

Flag



THANK
YOU!

