

Stock Market Prediction

Team: Stock Brokers

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A close-up photograph of Warren Buffett, an elderly man with glasses, wearing a dark suit, white shirt, and a red patterned tie. He is gesturing with his right hand, palm facing forward. The background is a composite image featuring a world map, a line graph with a red arrow pointing upwards, and a city skyline at night. The text "HOW AVERAGE PEOPLE CAN INVEST AND BECOME RICH" is overlaid in large, bold, white capital letters with a black outline.

**HOW
AVERAGE PEOPLE
CAN INVEST
AND BECOME
RICH**

Motivation:

- To help a user make well-informed investments
- To build a model that can memorize data from the past and convert it into knowledge that can adapt to the volatility of the stock market
- To bridge the gap between the uncertainty of the stock market and the investors perception about making a sound decision

Current Status:

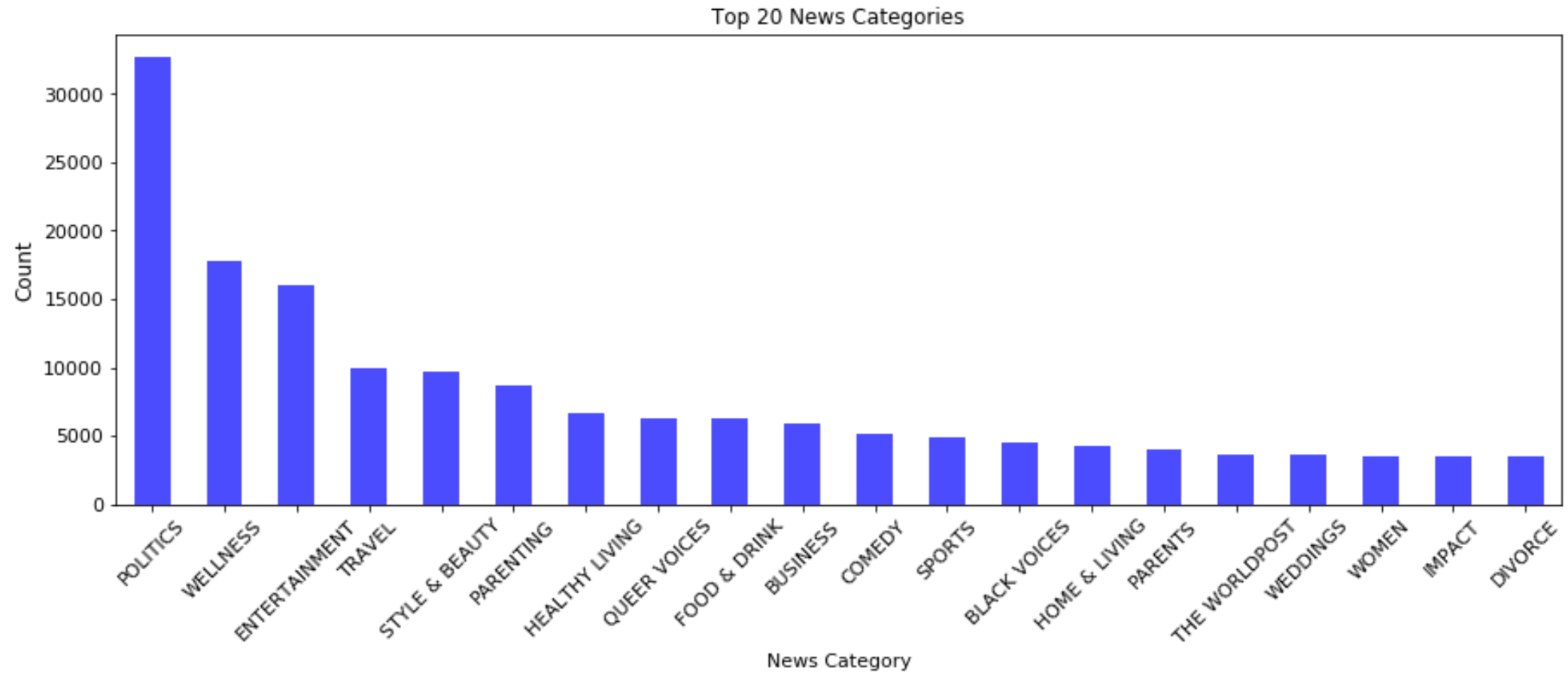
1. Data Collection:

- Finance Data:
 - Quandl API and Yahoo Finance scraper
 - Features: Open, High, Low, Close, Volume
 - Time Range: 1980 – 2019
- News Data: Huffington Post News
 - 200k articles
 - Features: Date, Headlines, Article Links, Categories, etc.
 - Time Range: 2012 - 2018
- Social Media Data: Twitter, Reddit
 - Features: Username, Date, Tweets, etc.
 - Time Range: 2012 - 2018

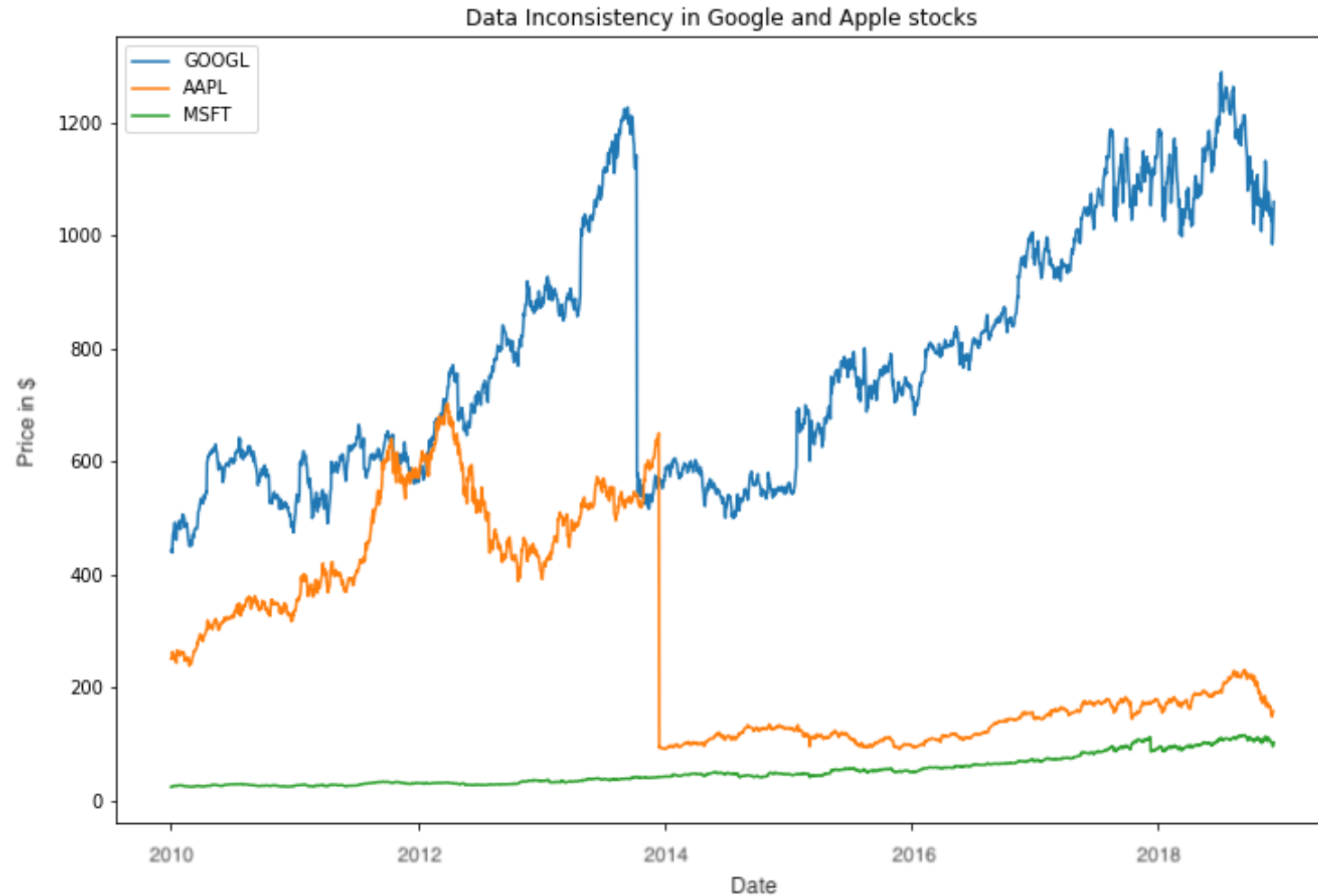
2. EDA:

- Better understand our data (inconsistencies, trends, missing data)

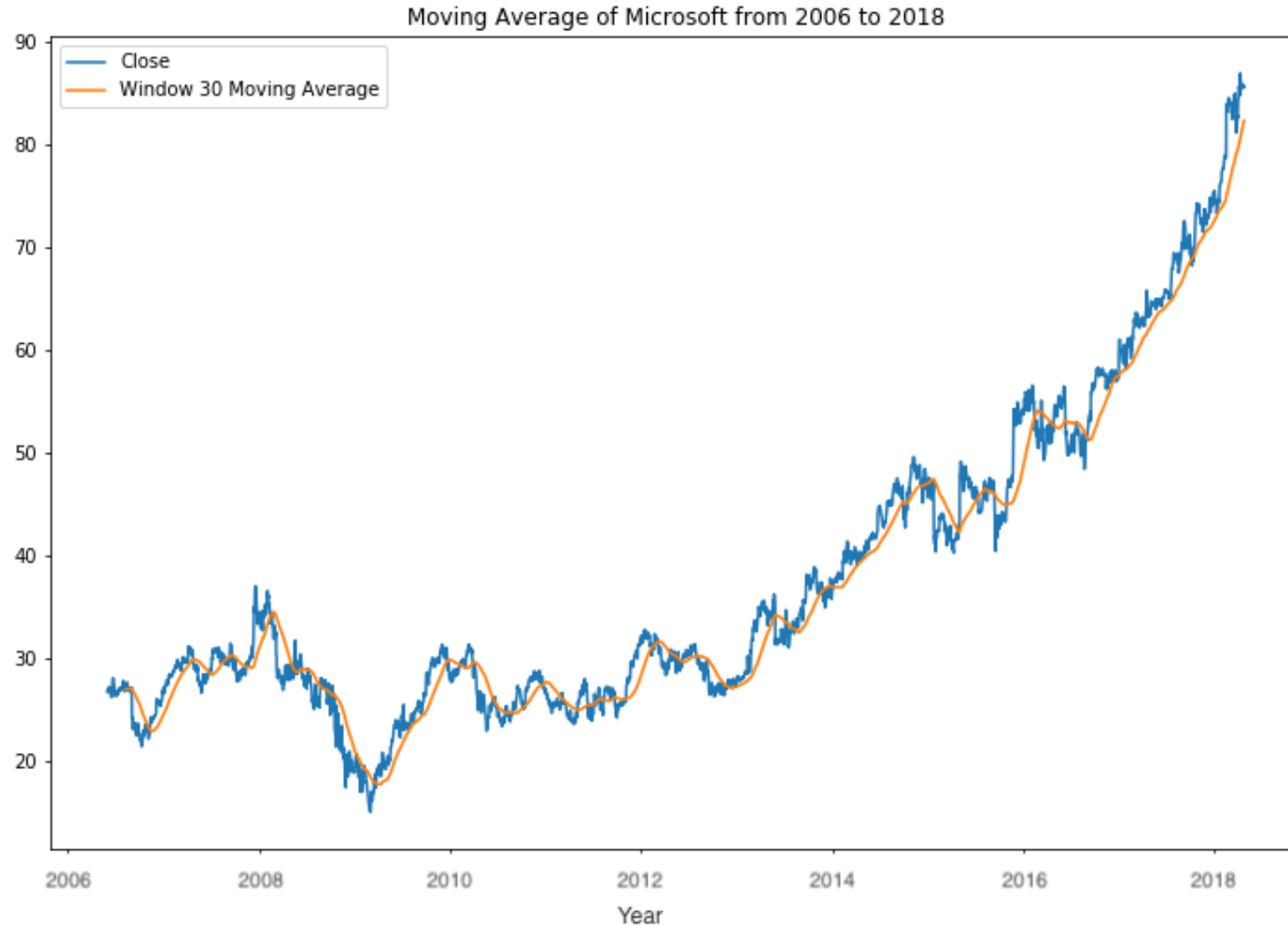
News Categories Analysis:



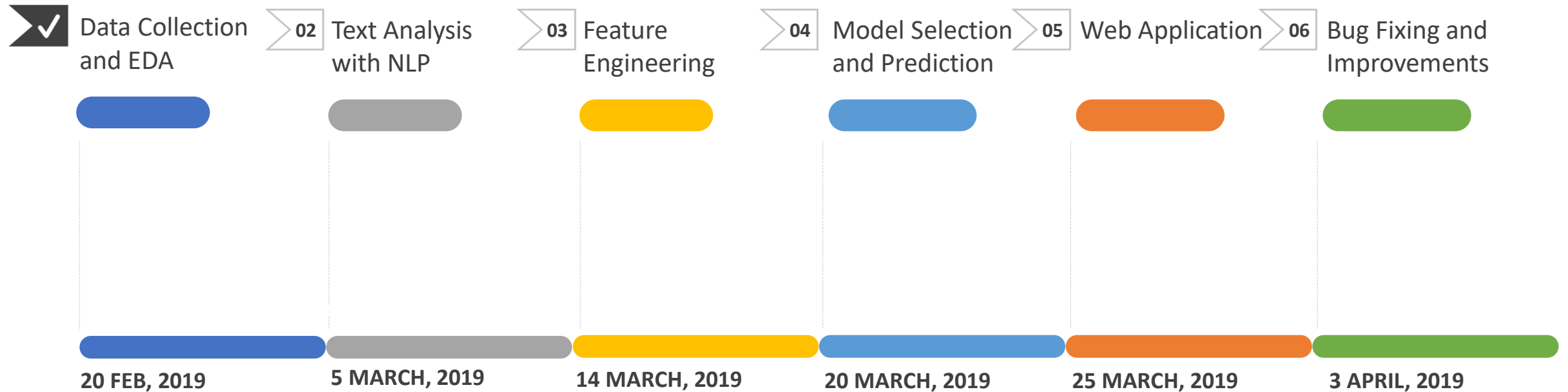
Stock Data Analysis:



Stock Data Moving Average Analysis:



Progress Report:



Future Work:

3. Text Processing with NLP:

- Extract features from the news and social media data by exploring various techniques

4. Feature Engineering:

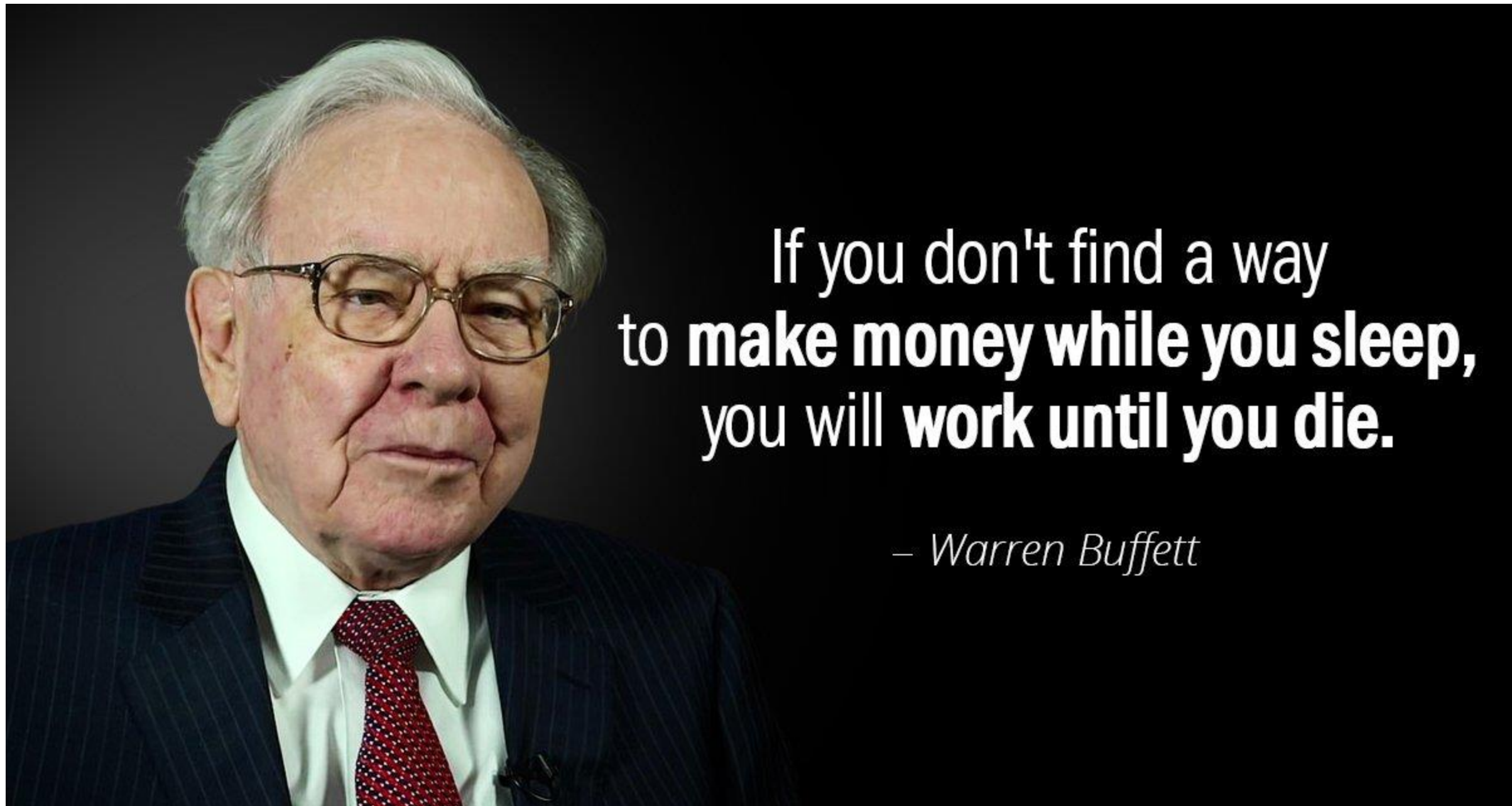
- Generate features from news, social media and historical stock market data

5. Model Selection and Prediction:

- Develop a model to predict future stock movements (RNN, LSTM)

6. Web Application:

- Takes input from the user and provides recommendations on where to invest with the help of visualizations and news article references.



If you don't find a way
to **make money while you sleep**,
you will **work until you die**.

– *Warren Buffett*

Thank You