**PRACHI CHAVAN**

**PGA 25**

**ANDHERI, MUMBAI**

# **Stock Price Prediction**

# **Executive Summary:**

This project focuses on the analysis and prediction of stock data for major tech companies like Apple (AAPL), Google (GOOG), Microsoft (MSFT), Amazon (AMZN), and Tesla (TSLA). The data used is the historical stock information of each stock, various metrics, and advanced machine learning techniques. This project aims to provide valuable insights for investors.

I have implemented Long Short-Term Memory (LSTM) and Simple RNN model using Keras for stock analysis. The model is designed to predict stock prices based on historical data. We need to be aware that the market is very unpredictable so we can’t always predict it accurately and this project is only for educational purposes.

# **Problem Statement:**

Background: Predict the future stock prices of the stocks using the previous stock prices.

# Objective: Aims to empower users with a comprehensive understanding of historical stock trends, risk assessment strategies, and the potential for future price prediction using advanced deep learning techniques.

# Scope: This project will be done on a few Famous Tech stocks.

# **3. Data Sources:**

Dataset: Publicly available stock data from the internet using the Yahoo Finance API to fetch historical stock data for the selected companies.

The Yahoo Finance API is a range of libraries/APIs/methods to obtain historical and real time data for a variety of financial markets and products, as shown on Yahoo.

# **4. Methodology:**

Data Collection: Get the data from the net using yahoo finance api.

Data Preparation: Clean and prepare data and perform Exploratory Data Analysis(EDA) on it .

Analysis Techniques: Using LSTM to predict the stock prices and using risk assessment strategies on the data.

# **5. Expected Outcomes:**

The future price of each stock.

# **6. Risks and Challenges:**

Inaccurate predictions could have consequences; validation is essential.

Analyzing the risk and its effect on each stock could be a little difficult.

# **7. Conclusion:**

The Stock Analysis and Prediction project aims to empower users with a comprehensive understanding of historical stock trends, risk assessment strategies, and the potential for future price prediction using advanced deep learning techniques. By leveraging this information, investors can make more informed decisions in the dynamic world of financial markets.