BATCH MEMBER

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Project Title: Stock Price Prediction

Phase 3 : Development Part 1

Topic: Stock Price Prediction: Feature Engineering, Model Training, and Evaluation



Phase 4 submission document

Building the Stock Price Prediction model

. Feature engineering

. Model training

. Evaluation.

**Feature Engineering:** Feature engineering is a crucial step in building a stock price prediction model. The choice of features can significantly impact the model's performance. Here are some common features you can consider:

* + **Technical Indicators**:

Calculate popular technical indicators like Moving Averages (e.g., Simple Moving Average, Exponential Moving Average), Relative Strength Index (RSI), MACD, Bollinger Bands, and Stochastic Oscillator. These can capture trends and momentum in the stock price.

* + **Fundamental Data**:

Incorporate fundamental data like earnings, revenue, P/E ratio, and other financial metrics. This can provide insights into the financial health of the company.

* + **Sentiment Analysis**:

Analyze news articles and social media data to extract sentiment features related to the company or the industry. Sentiment can influence stock prices.

* + **Lagged Values**:

Include lagged values of the stock price as features, as past prices can be predictive of future prices.

* + **Volume Data**:

Consider trading volume as a feature, as it can indicate the level of interest in the stock.

* + **Market Index Data**:

Incorporate data from broader market indices like S&P 500 or sector-specific indices as they can impact individual stock prices.

* + **Calendar Features**:

Include features related to market events, holidays, and trading hours. These can affect stock price movements.

* + **Technical Patterns**:

Recognize and encode technical patterns like head and shoulders, flags, or triangles if relevant to your analysis.

**First we say Imported library for stock price prediction**

Import numpy as np

Import pandas as pd

Import matplotlib.pyplot as plt

Import seaborn as sb

From sklearn.model\_selection import train\_test\_split

From sklearn.preprocessing import StandardScaler

From sklearn.linear\_model import LogisticRegression

From sklearn.svm import SVC

From xgboost import XGBClassifier

From sklearn import metrics

Import warnings