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# Stock market Prediction & Analysis

**Ajinkya Hinge[1], Himanshu Chavan[2], Jatin Jantre[3], Parikshit Jagtap[4]**

[1,2,3,4] *BE, Department of Computer Engineering, GESRHSCOE, Nashik, Maharashtra, India*

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***Abstract*** *- Many Proposed System have been done for stock market prediction. While there are many free and premium data sources available today, and there many new machine learning algorithms have been proposed, most of these researches do not focus on utilizing these data sources and algorithms. This paper proposes a stock market prediction service frame work that allows users to choose different data sources and machine learning techniques. In particular, while most existing prediction approaches are based on neural networks, support vector machines or Naive Bayes, we Proposed the flexibility of our framework by including metric learning based methods to predict stock movement.*

***Key Words***: **SAR – Stop & Reverse, SMA- Simple Moving Average.**

## INTRODUCTION

In proposed system we present the reliable and stable online Stock Market Prediction based application The subject input and questions , difficulty level will given as input from user Respected data will be stored on backend which is cloud . On backend admin will be manage tests related database work While user uses desktop application and by using various strategies accurate prediction is provided

## BASIC IDEA

The goal is to improve the decision making power and wakefulness about the investment in the stock market from the naïve user's perspective. The naïve investors are having the problem of choosing the valuable stock. The reason for this concern is the lack of knowledge about the market and lack of education. It is very essentials to identify the stocks which are suitable for the investors' Expectations and identify the suitable stocks for short term investors and long term investors based on the stock market analysis. Here We Proposed an easiest way to identify the stocks which is suitable for the investors' expectations. It means that this research will give suitable stocks for short term investors and long term investors based on the data analysis and its wave pattern movement. And also it will give the details regarding risk associated with these stocks.

## IMPLEMENTATION

These problem have many methodologies to solve like predicting stock with strategies like Simple moving average ,Parabolic SAR, Bolinger Bandes, Don chain Channels which gives prediction up to 70-80% while our application predicts up to 80-90% with somehow Accuracy.

**Examples:**

**A Simple Moving Average** is formed by computing the average price of security over a specific number of periods. Most moving averages are based on closing price .A 5-day simple moving average is the five sum of closing prices divided by five. As its name implies, a moving average is an average that moves

**Mathematical Model:**

$$SMA = (P_{[1]} + P_{[2]} + P_{[3]} + \ldots P_{[N]}) \div N$$


**Parabolic SAR -** Parabolic Stop-and-Reverse, this indicator provides both entries and exits. The indicator is composed of a series of dots, either above or below the price. When dots move from below to above the price bars, it is time to get out of longs or get short.

Extreme Point (EP) = The highest high of the current uptrend or the lowest low of the current downtrend.

Acceleration Factor (AF) = Determines the sensitivity of the SAR.

AF starts at .02 and increases by .02 every time the EP rises in a Rising SAR or EP falls in a Falling SAR.

The calculations for Rising Parabolic SAR and Falling Parabolic SAR are different so they will be separated.

Rising Parabolic SAR
Previous SAR + Previous AF (Previous EP - Previous SAR) = Current SAR

Falling Parabolic SAR
Previous SAR - Previous AF (Previous SAR - Previous EP) = Current SAR


## CONCLUSIONS

Signal predicates the overall the value of the stocks according to the Buy-sell signal given by the software. Increasing the overall profitability of the user & Minimizing the Stop loss as per the particular stock.

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## BIOGRAPHIES

Ajinkya Hinge is currently a student of GESRHSCOE, Nashik of the Savitribai Phule Pune University.

Himanshu Chavan is currently a student of GESRHSCOE, Nashik of the Savitribai Phule Pune University.

Jantin Jantre is currently a student of GESRHSCOE, Nashik of the Savitribai Phule Pune University.

Parikshit Jagtap is currently a student of GESRHSCOE, Nashik of the Savitribai Phule Pune University.