* **ABSTRACT**

The stock market is highly volatile and complex in nature. Technical analysts often apply Technical Analysis (TA) on historical price data, which is an exhaustive task and might produce incorrect predictions. Machine learning coupled with fundamental and Technical Analysis also yields satisfactory results for stock market prediction. In this work, I have made an effort to predict the price of stocks by applying Machine Learning technique's and adaptive Stock Technical Indicators (STIs)

* **INTRODUCTION**

The stock market is a trading platform where different investors sell and purchase shares according to stock availability. Stock market ups and downs affect the profit of stakeholders. If market prices going up with available stock then stakeholders get profit with their purchased stocks. In another case, if the market going down with available stock prices then stakeholders have to face losses. Buyers buy stocks at low prices and sell stocks at high prices and try to get huge profits. Similarly, sellers sell their products at high prices for for-profit purposes.

Data analysis (DA) in machine learning (ML) is a process of applying technical skills (ML Algorithms) to historical data to obtain statistically as well as tabular results about predictions. It is also considered a technical process of data illustration and evaluation. Two authors (Adil E.Shamoo , 2012; David B.Resnik , 2013) explained about DA, according to their theory DA is the process of distinguishing signals for decision making with statistical fluctuation of results.

In this research, I used several data resources in form of datasets and financial resources of data presentation. Yahoo Finance, Quandle, Kaggle and several other similar platforms provided data that is used in stock market predictions. I obtained data from these platforms for different stock exchange companies and after applying ML algorithms I presented stocks predictions results statistically.

* **LITERATURE SURVEY**

Stock Technical Indicators (STIs) STIs are statistical calculations based on the price, volume, or significance of a share, security, or contract. These do not depend on the fundamentals of a business, like earnings, revenue, or profit margins. The active stock traders and technical analysts commonly use STIs to analyze short-term and long-term price movements and to identify entry and exit points.

To enhance the predictability of the daily stock price trends, Yuzheng Zhai et al presented a system based on an SVM (Support Vector Machine) algorithm that combines the technical indicators and related news releases. For each trading day, seven technical indicators are computed from the prices in the past five days. Two groups of news releases are used. Two class categories, indicating the higher or equal price and lower price than the close price, are taken up for indicating next day’s price movement. The system achieved higher accuracy than achieved using single-source i.e. news or technical indicators.

* **TOPIC**

My Project concentrates on visualizing or representing and predicting stocks using Machine learning methods.

* **OBJECTIVE**

My goal is to make a Machine Learning model that will predict the price and price trend of stocks by applying Long Short Term Memory (LSTM) deep learning and Stock Technical Indicators (STIs).

* **PROPOSED METHOD**

In an attempt to predict stock market trends and future stock prices, market researchers, investors, and scholars regularly propose a range of models. These models are based on various methods including the following.

* Single and dual sources of information. Single information source methods either utilize numerical or semantic information extracted from news and reviews while dual-source methods utilize historical price and volume data as well.

I am performing the dual-source of an information model for my topic which predicts the outcome on the basis of historical price and volume data and is using machine learning algorithms.

* **TECHNOLOGIES USED**
* Python 3.9
* Pandas 1.15.0
* Matplotlib 3.4.2
* Plotly 5.1.0
* Machine Learning Algorithm
* Numpy
* **REFERENCE**
* <https://www.quandl.com/>
* <https://in.finance.yahoo.com/>
* <https://www.analyticsvidhya.com/blog/2017/09/common-machine-learning-algorithms/>
* <https://www.w3schools.com/python/python_ml_getting_started.asp>
* <https://www.youtube.com/watch?v=5dMXyiWddYs&ab_channel=MATLAB>
* <https://www.youtube.com/watch?v=vmEHCJofslg&ab_channel=KeithGalli>
* <https://www.youtube.com/watch?v=hSPmj7mK6ng&ab_channel=CharmingData>
* <https://www.youtube.com/watch?v=GwIo3gDZCVQ&ab_channel=edureka%21>
* <https://nbviewer.jupyter.org/urls/bitbucket.org/hrojas/learn-pandas/raw/master/lessons/01%20-%20Lesson.ipynb>