## Asif:

Good afternoon everyone, Myself Asif Shaikh

and our topic is about  Forecasting Stock Price Movements for Intraday trading and our group has 4 members Shubhjit, Ram, Prashant, me and our faculty author Ridhhi Mirajkar Mam..

## [Move to Introduction Slide]

So, let's get started with our presentation..

Because this whole presentation is going to swing around the stock market, so let me give a small idea about what share market is and then we move forward.

A market where shares are publicly issued and traded is known as a share market… owning shares of a company literally means having ownership in that company..

Okay, now..

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Predicting how the stock market will perform is one of the most difficult things to do. There are so many factors involved in the prediction – physical factors vs. psychological, rational and irrational behaviour, etc. All these aspects combine to make share prices volatile and very difficult to predict with a high degree of accuracy.

But can we use machine learning, data science as a game-changer in this domain? Using features like the latest announcements about an

organization, their quarterly revenue results, etc.,  This gave us the idea behind the term so, machine learning techniques have the potential to find patterns and insights we didn't see before, and these can be used to make accurate predictions.

Now, I request Shubhjit to explain you more about this. Thank you!

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Shubhjit:

Now, we know what share market is but the real question is Why we need this?

it's important to establish what we're aiming to solve. Broadly, stock market analysis is divided into two parts – Fundamental Analysis and Technical Analysis.

Fundamental Analysis involves analysing the company's future profitability on the basis of its current business environment and financial performance.

Technical Analysis, on the other hand, includes reading the charts and using statistical figures to identify the trends in the stock market.

As you might have guessed, our focus will be on the technical analysis part. We'll be using data from Yahoo Finance (you can find historical data for various stocks here).

The stock market is known for being volatile, dynamic, and nonlinear. Accurate stock price prediction is extremely challenging because of multiple factors, such as politics, global economic conditions, unexpected events like

covid, a company's financial performance, and so on.
But, all of this also means that there's a lot of data to find patterns in. So, financial analysts, researchers, and data scientists keep exploring analytics techniques to detect stock market trends.

Now, I would like to request Prashant to explain you more about this. Thank you!

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## Prashant:

As shubhjit said, there's a lot of data to find patterns in.

Despite the volatility, stock prices aren't just randomly generated numbers. So, they can be analyzed as a sequence of discrete-time data; in other words, time-series observations taken at successive points in time (usually on a daily basis). Time series forecasting (predicting future values based on historical values) applies well to stock forecasting.

Talking about the way.. We used the Python language for this because Python is a rich and powerful language for AI and data science projects and various libraries and algorithms were used.

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a machine learning project involves a number of steps:

the first step is to import our data next we need to clean it and this involves tasks

such as removing duplicated data if you

have duplicates in the data

we don't want to feed this to our model

because otherwise our model will learn

bad patterns in the data and it will

produce the wrong result

we need to split it into two segments one for training our model

and the other for testing it to make sure that our model produces the right result

the next step is to create a model and this involves selecting an algorithm

to analyze the data there are so many different machine

learning algorithms out there such as

decision trees neural networks and so on each algorithm has pros and cons in terms of accuracy and performance so

the algorithm you choose depends on the kind of problem you're trying to solve and your input data

next we need to train our model so we

feed our training data our model will then look for the patterns in the data so next we can ask it to make predictions

now the prediction is not always

accurate in fact when you start out

it's very likely that your predictions

are inaccurate so we need to evaluate

the predictions and measure

their accuracy then we need to get back to our model and either select a different algorithm that is going to produce a more accurate result for the kind of problem we're trying to solve or fine-tune the parameters of our model

so each algorithm has parameters that we can modify to optimize the accuracy

so these are the high level steps that you follow in a machine learning project

Mainly, there is LSTM.

LSTMs are widely used for sequence prediction problems and have proven to be extremely effective. The reason they work so well is because LSTM is able to store past information that is important, and forget the information that is not.

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This are some screenshots of the result. But are the predictions from LSTM enough to identify whether the stock price will increase or decrease? Certainly not! That's why we can plan further to improve project.

So now I request Ram to further explain the future scope of the project. Thank you!

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### Ram:

Data is the new currency so more data is more accurate predictions

Machine learning and Data science is a game changer in this domain so there is a lot of data to find patterns in for predicting with high degree of accuracy.

In future we'll try to predict the values based on multiple factors such as companies financial performance means Fundamental analysis which includes balance sheets, profit loss statements, news and so on.

And We are going to implement multiple types of algorithms because different types of data requires different types of techniques.

And Decided to implement a simple User Interface to operate this whole process for users so to make people engage in Stock market.

The point why user interface is so important because many Indians or generally almost many people gets panic by looking at the charts, tremendous data, so it looks complex to them

that's why providing a simple and significant way to provide this service to users is the most concerning point to us.

Now Asif will continue..

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