INTRODUCTION

We are developing a Desktop based application that will retrieve real-time stock market data shows the user interactive visualization of graphs. This application will also forecast the price of stocks for the next two hundred days with an approximate tolerance of 85 percent. The application will replicate a reality-based buy/sell situation where the user will buy or sell according to the predicted values shown to him.

REAL WORLD PROBLEM

People used to buy/sell stocks or invest in the International after thinking a lot. It would sometimes churn up their whole day. So, to facilitate newbies and the old ones in the industry, we thought of bringing a solution to this problem. It made us ponder upon the technologies that were available to us. So, by sorting the things out, we agreed upon making a user-friendly interactive system that would help the customer that he is making the right decision by investing in a particular stock.

AIMS

- The system will use appropriate data visualization mechanisms such as graphs and charts to aid user-system interaction. i.e., intuitive data representation.
- The system will be a decision-making support system that will assist users to make decisions on the intended scenario, for instance, users may specify the profit or coin they intend to buy.
- We will apply suitable techniques and algorithms to make our system derive decisions based on the previous evidence given to it.
- We will also combine multiple machine-learning models and algorithms to evidence sophistication.
- The system will be interactive and able to handle real-time information, i.e., any alteration to the data from the interface will reflect in atmost a day. For instance, the change in price or currency should reflect in the predicted value.
- The system will allow the users to plan and forecast investment using a range of scenarios, i.e., the system permits alteration to answer 'What-If' questions (for instance, what will be the profit if **TSLA** is sold for $1000 or $3000. Users should be able to change the quantity of the coin etc).

TECHNOLOGIES

- Java
- JavaFX, SceneBuilder for Desktop Application
- Long Short Term Memory (LSTM) for Time Series Forecasting

- Matplotlib for Graphs
- Pandas and Numpy for Data Analytics
- Tiingo API for retrieval of real-time data
- GoogleNews API