Predicting Stock Market Trends – Machine Learning & Deep Learning Project in Python

**Introduction:**

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 behavior, etc. All these aspects combine to make share prices volatile and very difficult to predict with a high degree of accuracy.

I will work with historical data about the stock prices of a publicly listed company. I will implement a mix of machine learning algorithm to predict the future stock price of this company, starting with algorithms like averaging, linear regression, decision tree, random forest, Adaptive Boosting (Adaboost), eXtreme Gradient Boosting (XGBoost), K-Nearest Neighbors (KNN), Logistic Regression and then move on to advanced techniques like (Recurrent Neural Network (RNN) and Long short-term memory (LSTM).

**Datasets:**

Stocks data

* Tesla
* Apple
* Microsoft
* Facebook
* Google

**Libraries:**

* Numpy
* Pandas
* Sklearn
* matplotlib
* keras and etc..

**Machine Learning Models or Algorithms:**

* Linear Regression
* Decision Tree
* Random Forest
* Adaptive Boosting(Adaboost)
* eXtreme Gradient Boosting (XGBoost)
* Logistic Regression

**Deep Learning Models**

* (Recurrent Neural Network (RNN)
* Long short-term memory (LSTM)

I will use all of these models to predict the datasets the higher accuracy the model achieve will be considered as the best model to predict the stock trends and by using that model I will make dashboard to analyze the stocks.

**Python Frameworks:**

I will build a dashboard to analyze stocks. Dash is a python framework that provides an abstraction over flask and react.js to build analytical web applications.