STOCK PRICES ANALYSIS AND PREDICTION SYSTEM

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Project Guide:
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Knowledge to Empower

Abstract

- A stock (equity) is a security that represents the ownership of a fraction of a corporation or a company.
- The aim is to predict the future value of the financial stocks of a company.
- A graph such as a “CandleStick” graph represents the trend of the rise and fall of a company’s market share value
- People use this graph to analyse and predict which move will be adequate to yield the most profit.
- This project will incorporate much of the characteristics of these analysing techniques to predict the company’s future stock market share value over time.

Objective

- The primary objective of the work is to develop a robust system for analysing stock price movement based on stock price data.
- This system will be able to take input of parameters from history of the required stock value of a Company.
- Based on the analysis of trend of the past data,, it will be able to provide a graph of expected averaged prices over time.

Literary Survey

Research Paper:

- Machine Learning in Stock Price Trend Forecasting. Yuqing Dai, Yuning Zhang
- Stock Market Forecasting Using Machine Learning Algorithms. Shunrong Shen, Haomiao Jiang. Department of Electrical Engineering. Stanford University
- How can machine learning help stock investment?, Xin Guo

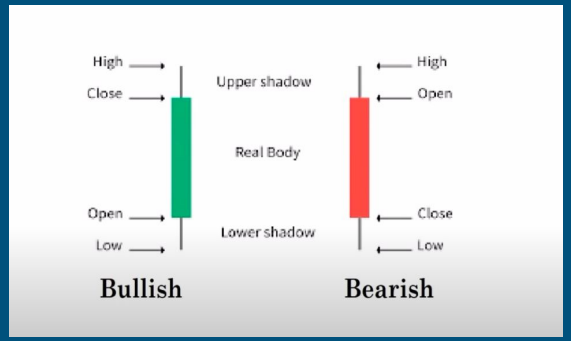
Parameters

- Intraday **High**
- Intraday **Low**
- **Open** Price
- **Close** Price
- Daily **Volume**
- **Date** of record

Candlestick Terminology

- Bullish and Bearish
- Marubozu
- Candle Body
- Candle Shadow
- Rejection
- Reversal

Candlestick Notations



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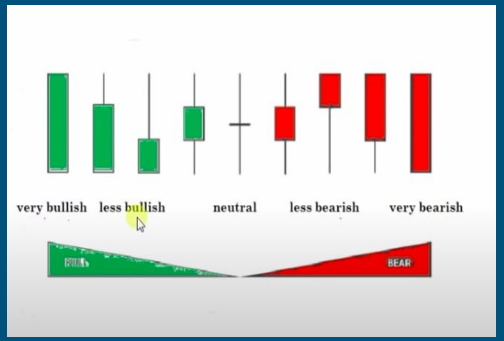

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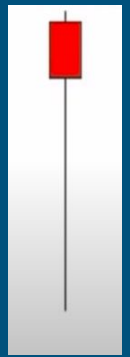

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Candlestick Analysis Example for Understanding Training Model

Candlestick Analysis Example for Understanding Expected Outcome of the System

Technology and Implementation

- **Python** Computer Language for Coding
- Python **Pandas, NumPy** Library
- Python **Pickle** Library
- Python **SkLearn** Library
- Recurrent Neural Network (**RNN**) using **LSTM** for past analysis
- **Regression** using **Keras Regression** for Prediction *(form Python **Keras** Library)*

Benefits

- Shows future trends, to assist investors in predictions
- System does not take into account fake news and rumours

Shortcomings

- No Disaster factorization
- No Real time news factorization

Future Scope

- News Gathering and Rectification
- Real time re-analysis using dynamic fetching of LTP and CMP
- Meter reading to suggest user for Buying/Selling/Holding

Timeline

- Literary Review
- Choosing and designing feasible components
- Structuring Roadmap
- Gathering Data
- Preprocessing and Cleaning
- Feature Extraction
- Data Normalization
- Prediction
- Output Graph
- Final Report

Thank You