

A REAL-TIME FINANCE ROBOT FOR STOCK PRICE PREDICTION

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1 INTRODUCTION

The goal of the project is to offer a finance robot that utilize real-time stock price to draw a prediction. There are three main components of the robot, which are:

1. Embedded AI using machine learning and deep learning to analyse historical data for inference and prediction.
2. Real-time stock price report that streams the stock value directly from stock market.
3. Human-machine interface

Moreover, we will investigate several time-series analysis techniques, that are able to offer choices for the embedded AI. Thus, it is more convenience for user to make decisions. Although in fact, there are external attributes for the fluctuation of stock prices, within the scope of the project, we only consider historical data for prediction.

The artifact intelligence embedded in the robot is able to perform inferences based on both machine learning and deep learning methods, which include

1. Conventional machine learning methods such as linear regression, tree-boosted time-series analysis and moving average.
2. Deep learning techniques using LSTM and (optional) Transformer developed by OpenAI.

REFERENCES

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- [3] Trevor Hastie, "Statistical Learning"