A User-friendly Trading Platform

Present by L.T.C

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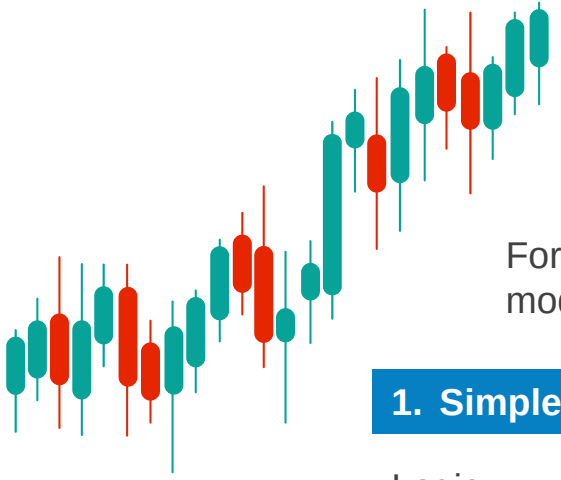
Description of problem and solution

Problem:

1. **Traditional quantitative trading platforms require users to have financial literacy**
2. **Existing trading platforms mainly designed for professionals**
3. **Existing trading platforms only display simple data**

Solution:

1. **A comprehensive online trading platform**
2. **List simple and easy-to-understand stock selection indicators**
3. **Perform backtesting and analyse user's investment**
4. **Provide online teaching on financial literacy**



Trading Algorithms

For machine learning algo 2,3,4: Considering overfitting problem, only set 2 characteristics for model building (Calculation is based on Lagged logarithmic yield)

1. Simple Moving Average (SMA)

Logic:

- Short-term line > Long-term line: BUY
  Otherwise: SELL

Further Consideration:
Use Python to find the best parameter with the Maximum trading return rate

2. Linear OLS Regression

Logic:

- provide information to forecast future earnings. e.g., one might assume that two downward movements are more likely to be followed by an upward movement (average activity) or, conversely, another downward movement is more likely ("momentum" or "trend").
- The application of regression techniques is to normalize these informal inferences.

3. Naïve Bayes, Logistic Regression, SVM

Logic:

- The 2 feature mentions in Algo 2 are transformed into binary features.
- According to the two binary features from the historical observations of upward and downward movements
- Apply 3 classification method in machine learning and output the best one with its trading return rate

4. Deep Neural Network (DNN)

Logic:

- Similar to the logic of Algo 3
- DNN simulates the operation of the human brain
- Apply the MLPClassifier algorithm in scikit-learn

Result of Backtesting: ('AAPL', '2020/1/1', '2023/2/11')

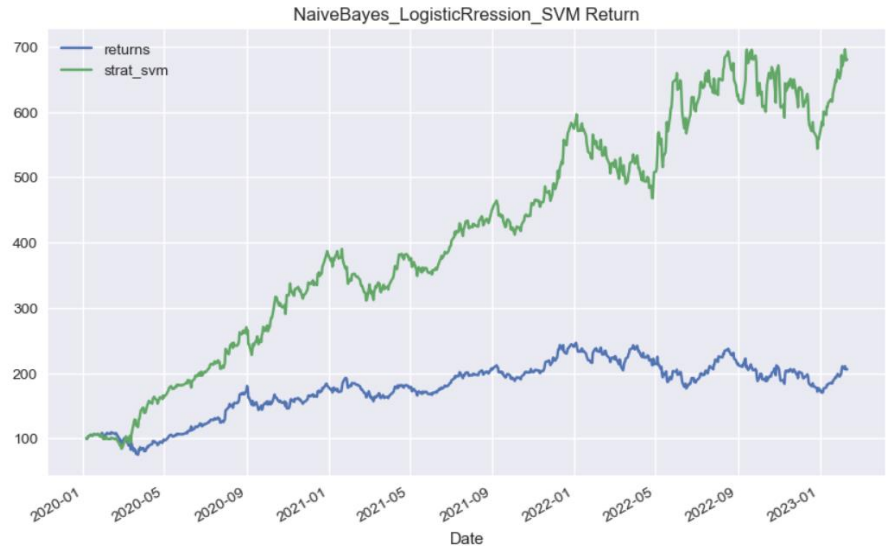
Strategy Return

Base Return (AAPL)

1. Simple Moving Average (SMA) -> 22.05%

2. Linear OLS Regression -> 272.11%

3. Naïve Bayes, Logistic Reg, SVM -> 580.57%



4. Deep Neural Network (DNN) -> 250.88%

Report of Backtesing

Daily/Monthly/Yearly:

1. **Sharpe ratio**
2. **Sortino ratio**
3. **Mean return rate**
4. **Volume**
5. **Skew**
6. **Kurt**

1. **Max Drawdown**
2. **Calmar ratio**

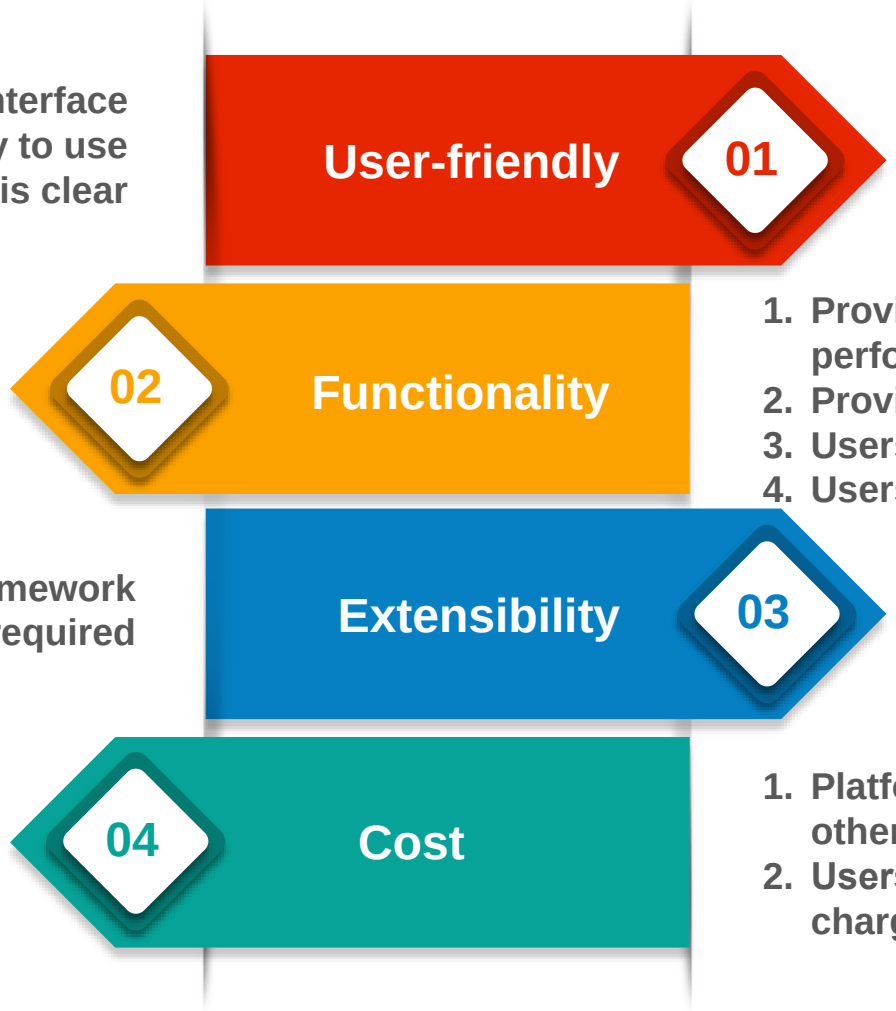
1. **Start time**
2. **End time**
3. **Yield Return**
4. **CAGR**

1. **Month to date Interest**
2. **Three month Interest**
3. **Six month Interest**
4. **Year to date Interest**
5. **1-y, 3-y, 5-y, 10-y Interest**

Daily/ Monthly/ Yearly

1. **Worst Return**
2. **Best Return**

Practicality & Usefulness

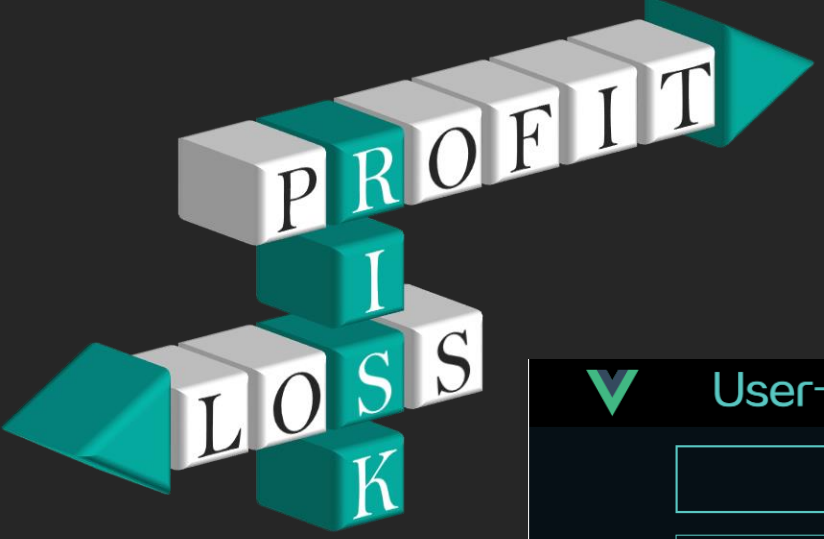


1. Clear Interface
2. Search function is easy to use
3. Division of functional modules is clear

1. Provide backtesting analysis, investment performance measures, quantitative indicators
2. Provide online teaching on financial literacy
3. Users can choose stock investment strategies
4. Users can make online quantitative trading

1. Clear system construction framework
2. Convenient to add functions as required

1. Platform development not require huge cost than others
2. Users don’t need to pay additional service charges when they make investment



Platform Demonstration

User-friendly Trading Platform

Strategy & Backtest Period

Stock Code:
AAPL

Quantitative Trading Strategy:
- Simple moving average
- Linear OLS Regression
- Naïve Bayes, Logistic Regression, Support Vector Machine
- Deep Neural Network

From:
年/月/日
To:
年/月/日

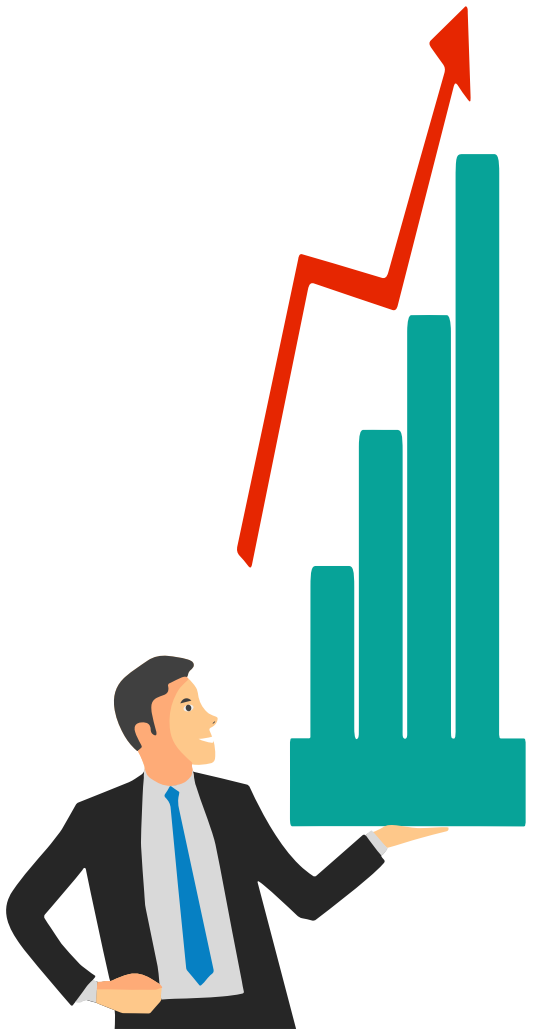
Submit

Backtesting Report

Basic Info	
Start Date:	1578373200000
End Date:	1676005200000
Total Return:	2.4436048574
CAGR (Compound annual growth rate):	0.4913475335
Risk-adjusted Ratios	
Max Drawdown:	-0.2459764845
Calmar ratio:	1.9975386445
Interest Rate	
MTD (Month to date):	-0.0177286578

Measures	Daily	Monthly	Yearly
Sharpe:	1.2667478349	1.0004056599	1.2081201881
Sortino:	2.3283289961	4.2962348003	
Mean:	0.4671058436	0.5215865781	0.1251842141
Vol:	0.3687441421	0.5213750772	0.1036190069
Skew:	0.5708706701	2.9522192134	1.5987645005
Daily kurt:	4.4846527296	12.2715488553	

Conclusion and outlook



User-friendly Quantitative Trading Platform

Our platform facilitates investors who lack mathematical and programming skills to test specified quantitative strategies.

- ✓ Specify stocks
- ✓ Choose a predetermined strategy
- ✓ Set specified period

⬇

- ✓ Return Report Line Chart
- ✓ Performance Measures

Outlook

Provide users with more options to customize quantitative trading strategies.

- o Screener based on companies' financial statistics
- o Trading based on historical stock prices

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THANK YOU

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