



# Q: Stock Analyzer

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## Form

Q works through a **terminal** and **outputs** the results of the **profit-maximizing** algorithm in a given **timeframe** as such:

```
==== Class Distribution in dataset:
target
0    66.564080
1    18.355683
-1    15.080237
Name: proportion, dtype: float64

Training on 3639 samples, testing on 910 samples.
Training SVM model with RBF kernel...
Model training complete.

==== Model Evaluation Results ====
Accuracy: 94.29%

Classification Report:
              precision    recall  f1-score   support

Sell (-1)      0.98      0.79      0.87      137
Hold (0)        0.93      1.00      0.96      682
Buy (1)         0.99      0.88      0.93      171

 accuracy      0.96      0.89      0.94      910
 macro avg     0.96      0.89      0.92      910
 weighted avg  0.95      0.94      0.94      910

=====
----- BACKTESTING WITH 100 AGAINST B&H -----
=====
Running SVM Strategy Simulation ---
Running Buy and Hold Simulation ---
Running Raw SVC Signal Simulation ---

Detailed Results per Ticker (Top 10 by SVM Profit) ---
strategy  SVM Model  Raw SVC Signal  Buy and Hold
ticker
SOFI      4.24      0.00      14.04
SNAP      3.04      0.25      13.62
SOON      2.17      1.99      32.51
TV        2.15      0.00      13.90
RKT       2.02      0.00      6.69
TSLA      1.09      0.50      -4.32
UAMY      1.00      0.00      -25.85
YOU       0.51      0.00      -2.01
WEN       0.36      0.00      2.08
TSM       0.33      -0.28      0.94

Average (Portfolio) Results Across All Tickers ---
              final_value  profit  total_return_pct  risk_pct  sharpe_ratio
strategy
SVM Model    $99.23  $-0.77      -0.77%      0.25%      -0.02
Raw SVC Signal $99.98  $-0.02      -0.02%      0.03%      -0.07
Buy and Hold  $98.49  $-1.51     -1.51%      3.03%      0.45

=====
ticker  strategy  final_value  profit  total_return_pct  risk_pct  sharpe_ratio
0  RKL  SVM Model    94.731138  -5.268862  -0.052689  0.01037  -2.774068
1  RKT  SVM Model   102.022879  2.022879  0.020229  0.00552  2.922754
2  RMD  SVM Model   100.000000  0.000000  0.000000  0.00000  0.000000
3  RR   SVM Model    77.725871 -22.274129 -0.222741  0.02296  -5.605911
4  RS   SVM Model   100.000000  0.000000  0.000000  0.00000  0.000000
...
104 XPEV Raw SVC Signal 100.000000  0.000000  0.000000  0.00000  0.000000
105 XPO  Raw SVC Signal 100.000000  0.000000  0.000000  0.00000  0.000000
106 XYZ  Raw SVC Signal 100.000000  0.000000  0.000000  0.00000  0.000000
107 YDU  Raw SVC Signal 100.000000  0.000000  0.000000  0.00000  0.000000
108 ZIM  Raw SVC Signal 100.000000  0.000000  0.000000  0.00000  0.000000
```

## Function

- Q continuously scans major social-media platforms to measure real-time sentiment for thousands of publicly traded stocks.
- Uses NLP and LLMs to assign each stock a sentiment score and identify top tickers showing unusually strong positive momentum.
- Cross-validates high-sentiment stocks using:
  - Historical price & volume data to confirm trends and volatility
  - Political insider-trading records to detect potential government influence
- Combines sentiment trends, market fundamentals, and insider-trading signals to generate transparent, data-driven buy/sell recommendations.
- Includes a fully automated Autorun mode that can execute trades on the user's behalf using a profit-maximizing algorithm.
- Enables hands-free investing, with the system monitoring, analyzing, and acting in real time without manual input.

## What's next?

- Refine and optimize the algorithm to improve accuracy and reduce noise
- Expand data sources and integrate more advanced market indicators
- Experiment with additional LLM models for better real-time interpretation
- Conduct deeper, more rigorous back-testing
- Strengthen risk-management controls
- Enhance the Autopilot system to support personalized strategies
- Improve performance, automation stability, and move toward a production-ready platform

## Resources

- **LLM-powered** sentiment engine analyzes real-time social-media data
- Uses **Python**, with key libraries including **PySentimiento** and **Pandas**
- Cross-references high-sentiment stocks with:
  - Historical market-data **APIs**
  - Political insider-trading **APIs**
- Developed entirely in **Python** using **VS Code**
- Hosted on a secure private **Clovux** server for continuous operation

