
BTC/ETH • 1h • Uniswap
O 0.0682 H 0.0682 L 0.0682 C 0.0682
Volume $223K
$0.06642
$0.06642
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$0.06642
Automatic Trade System
Research Open Source project
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00

“If you don't find a way to make money when you sleep, you'll be working for the rest of your life”

Warren Buffett

Problem №1

The financial and cryptocurrency markets are renowned for their **unpredictability and complexity**, posing significant challenges for both investors and researchers

General Statistics

Every year, new participants enter the investment and cryptocurrency market, leading to an annual increase in the number of active traders and investors

Of the financial instruments utilized being driven by trading algorithms and predictive AI technologies in stock markets

Of traders every year are losing their money and never return to the trading

Of speculative capital realised in equities and cryptocurrencies

Our insights

Do you believe that it is possible to create regular, stable and passive income with the help of algorithms and AI?

Copy

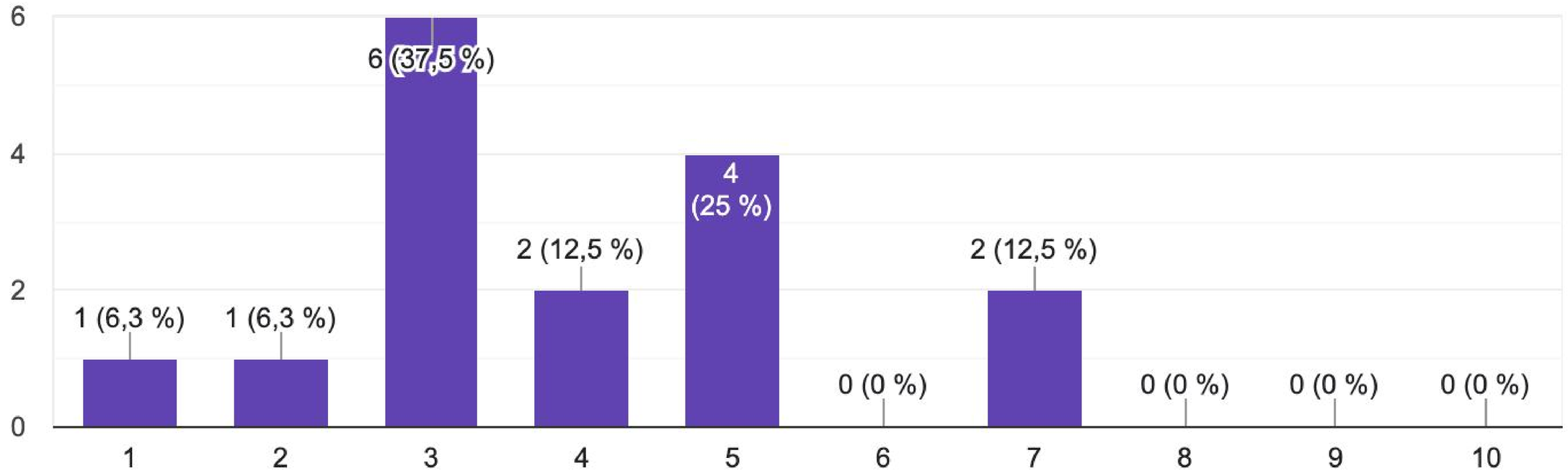
16 answers

Our insights

On a scale of 1 to 10, how predictable do you think financial markets and events are?

Copy

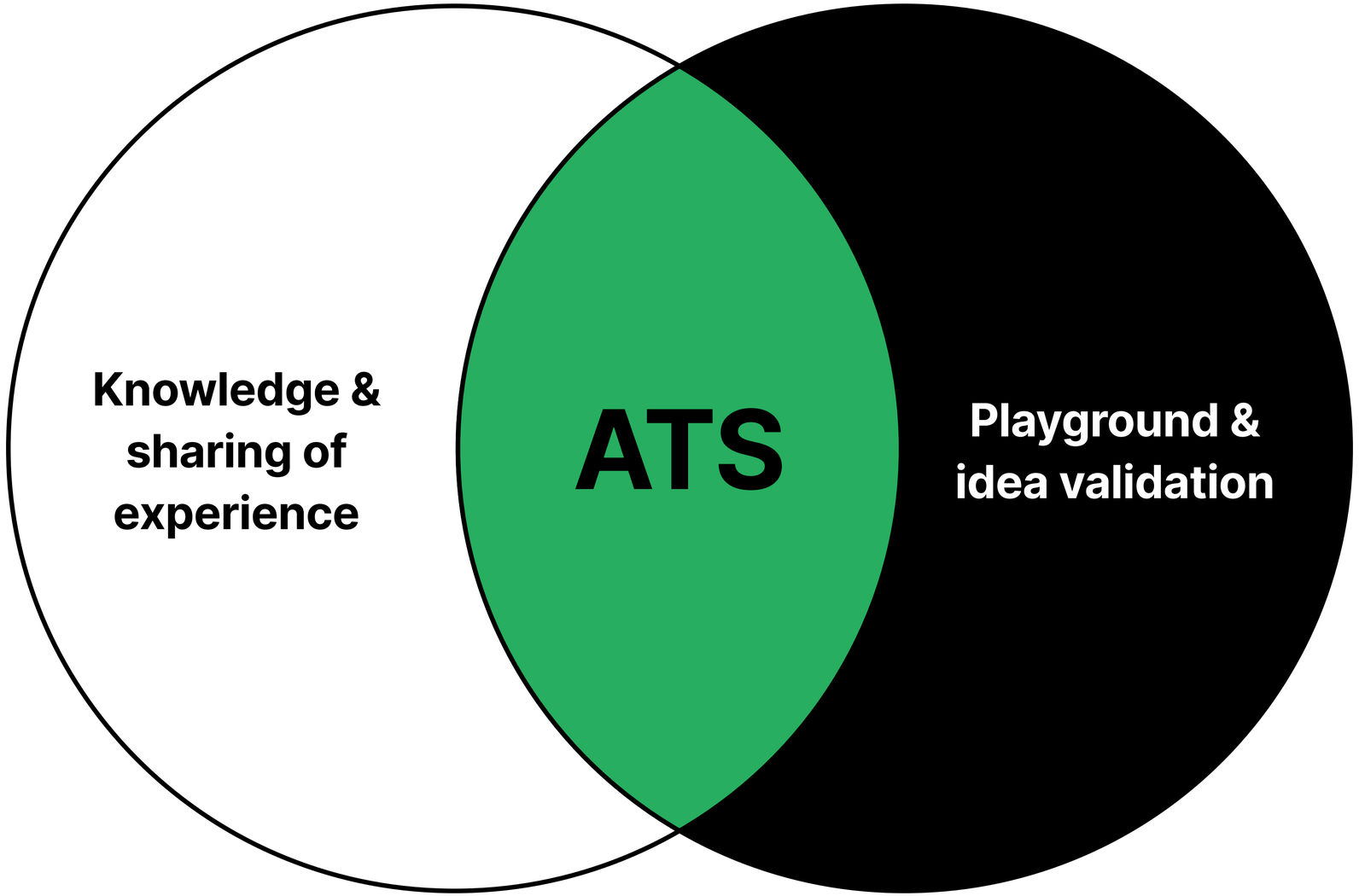
16 answers



Problem №2

Due to lack of knowledge and practical experience, many people trusting **black box algorithmic systems, scams and unprofessionals** make serious mistakes and lose their money

Solution


Knowledge & sharing of experience
ATS
Playground & idea validation

We provide **knowledge and practical experience** related to the problem of predictive market behavior, as well as form an **open community** that develops new ideas and methods of stable automatic trading

Features

Open Source platform on GitHub

Our developments - trade algorithms, 2 ML models and automatic system for working with the exchange are publicly available and open for experimentation

Web dashboard

Results of automatically executed transactions on the exchange with detailed analytics are placed in the web interface

Automatic trading

Our system allows you to make a real-time prediction of the price of the selected cryptocurrency and make a buy, sell or hold transaction immediately on the exchange


DEMO TIME!
...WHAT COULD POSSIBLY GO
WRONG

Architecture & Stack

Backend

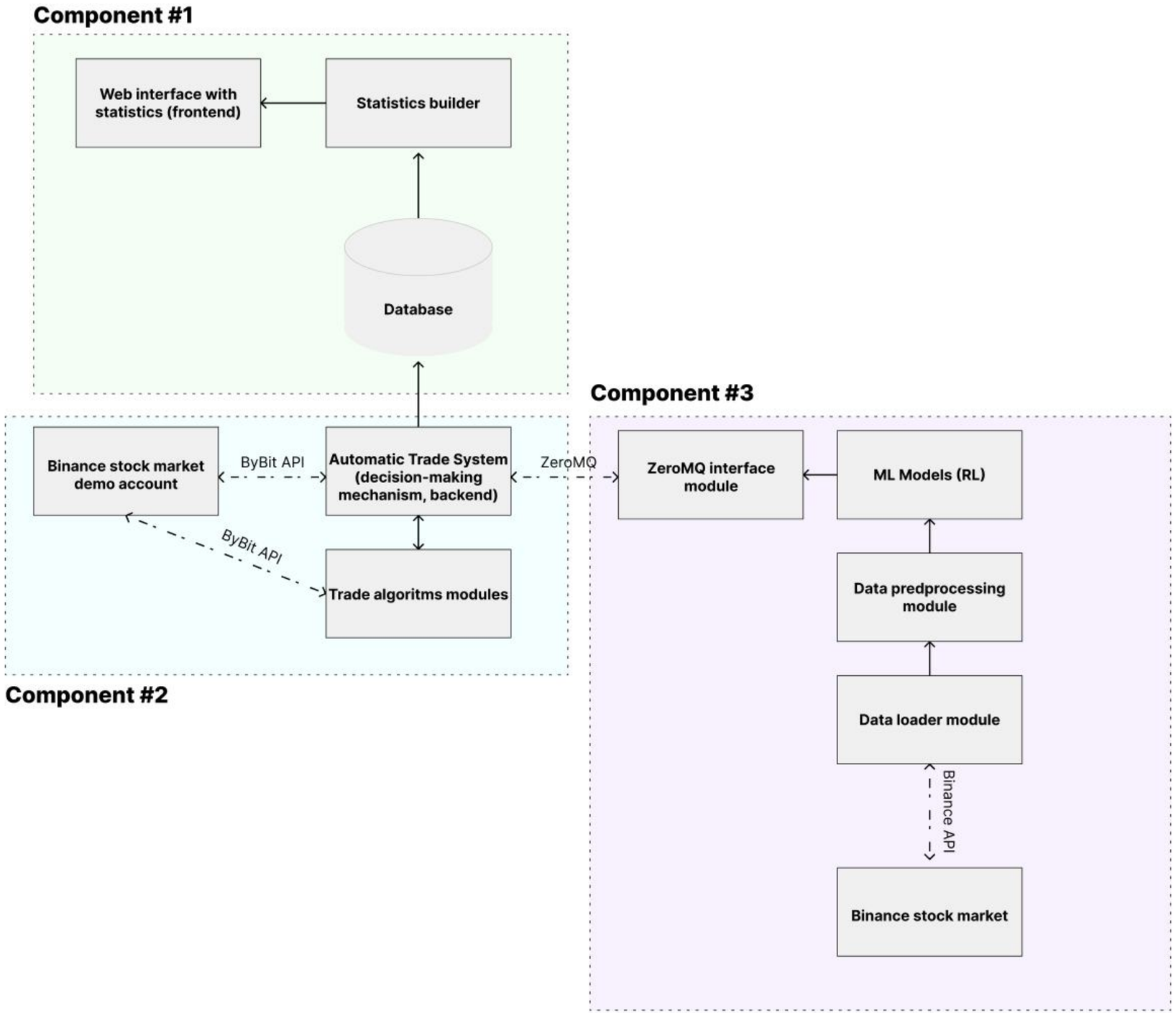
Frontend

Two ML agents based on RL

Six trade algoritms

Logging database

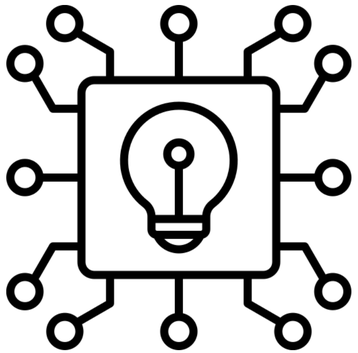
Stock market with demo account



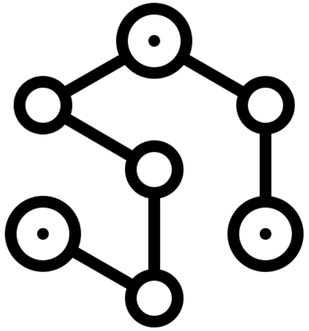
Automatic system & decision-making engine

Ensemble

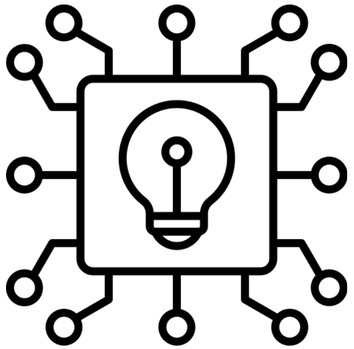
Agent №1



Trade algos



Agent №2



Votes:

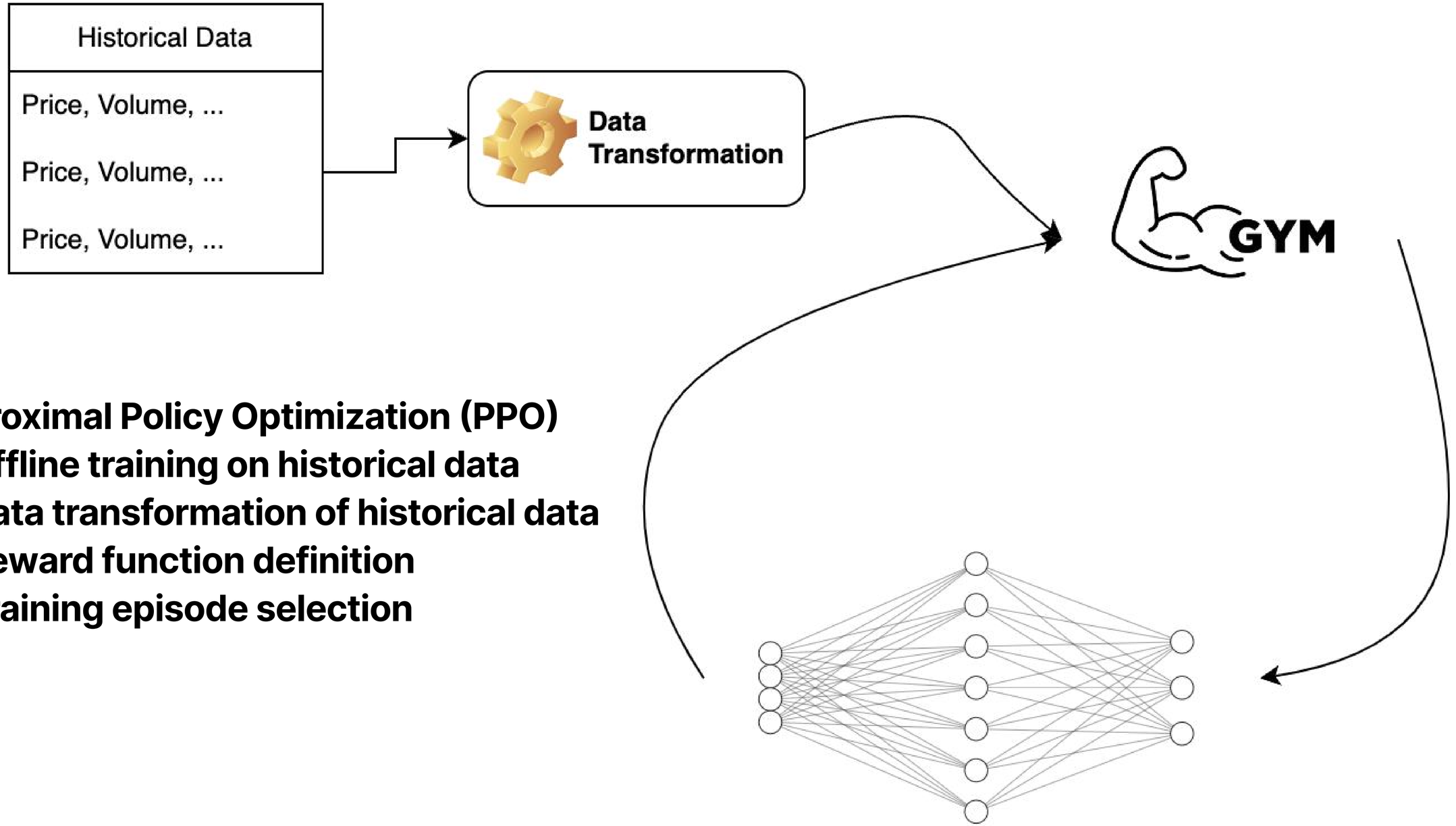
Buy

Sell

Hold

ML component

PPO Model for Informed Trading Decisions

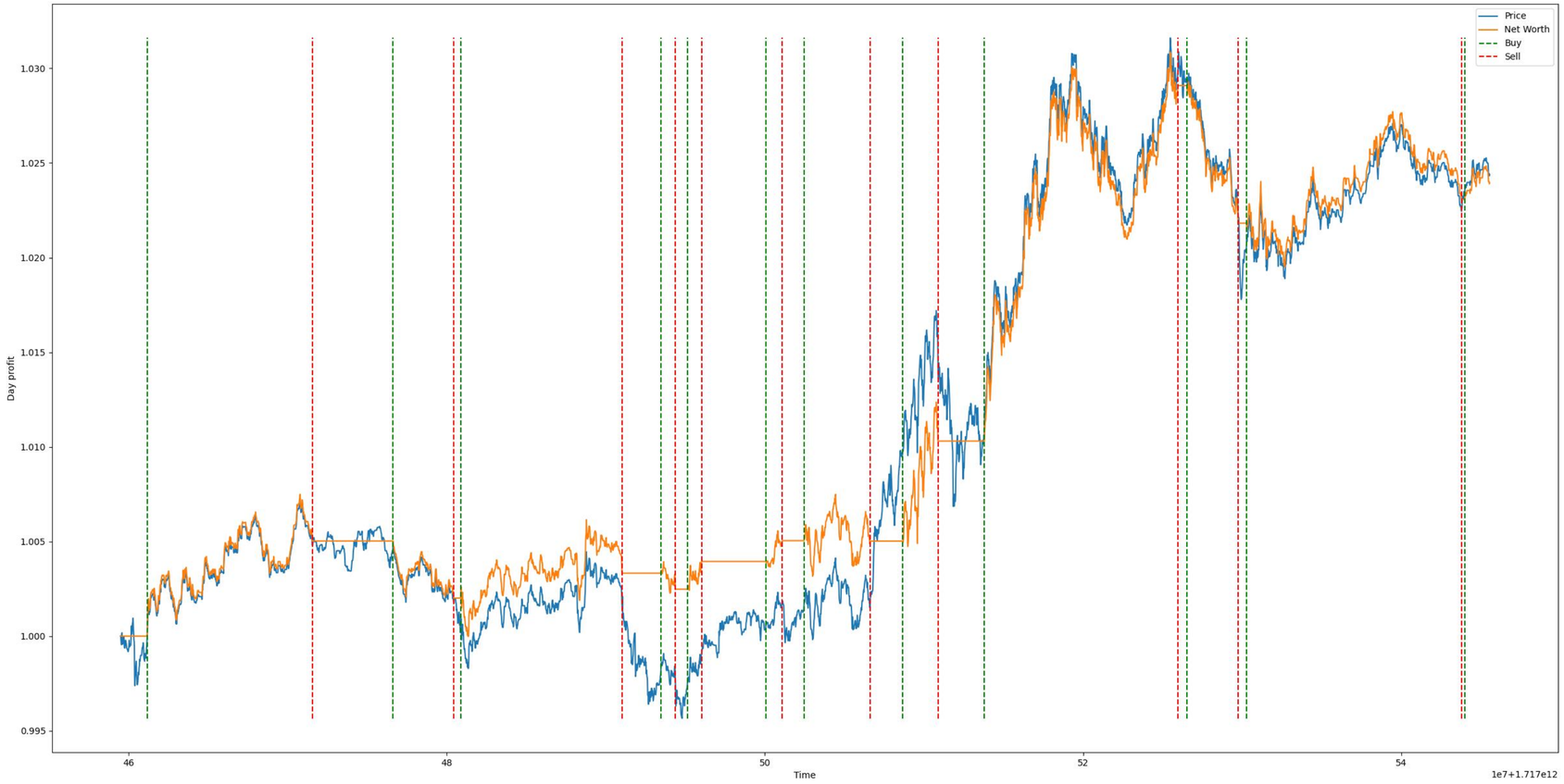


- **Proximal Policy Optimization (PPO)**
- **Offline training on historical data**
- **Data transformation of historical data**
- **Reward function definition**
- **Training episode selection**

Agent №1 Training and Validation

Knife reward:

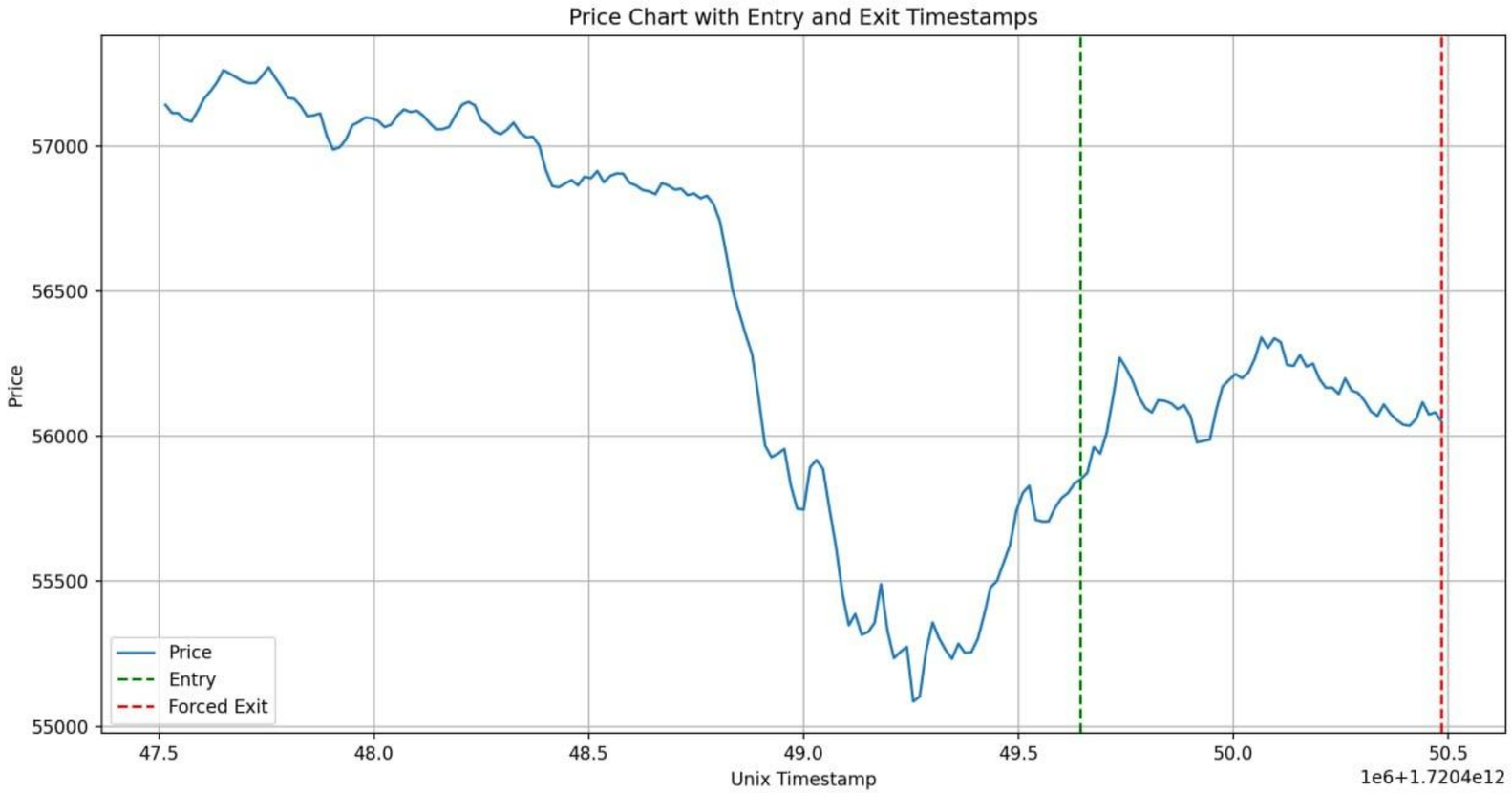
- Sparse reward strategy and its limitations
- Evaluation of mid-episode closing trades
- Gain/Regret calculation
- Trading frequency penalties



Agent №2 Training and Validation

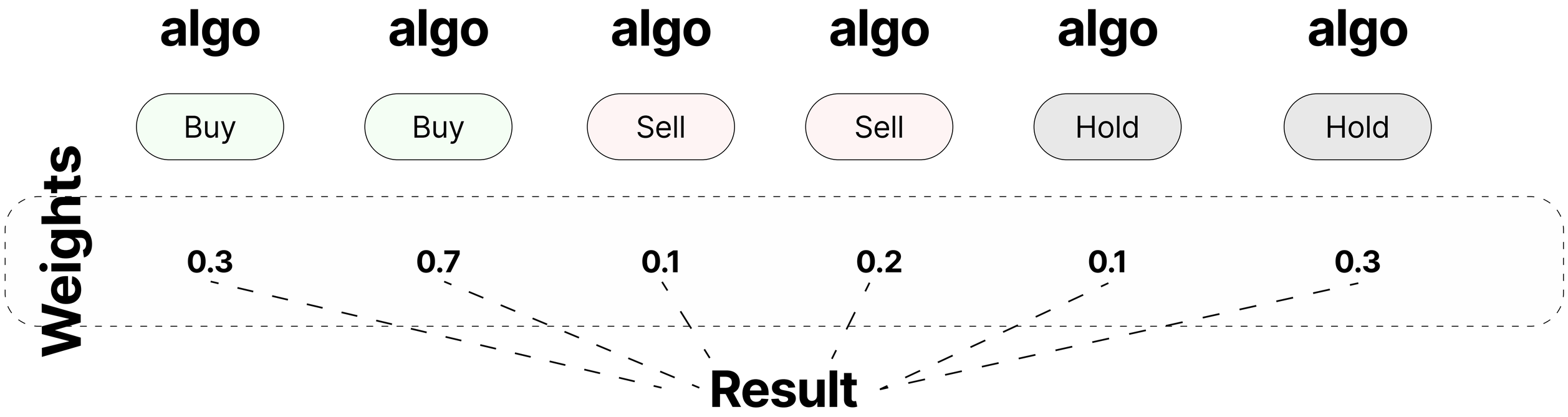
Knife reward:

- Cumulative
- Potential Profit/loss ratio
- Real profitloss
- Time in trade

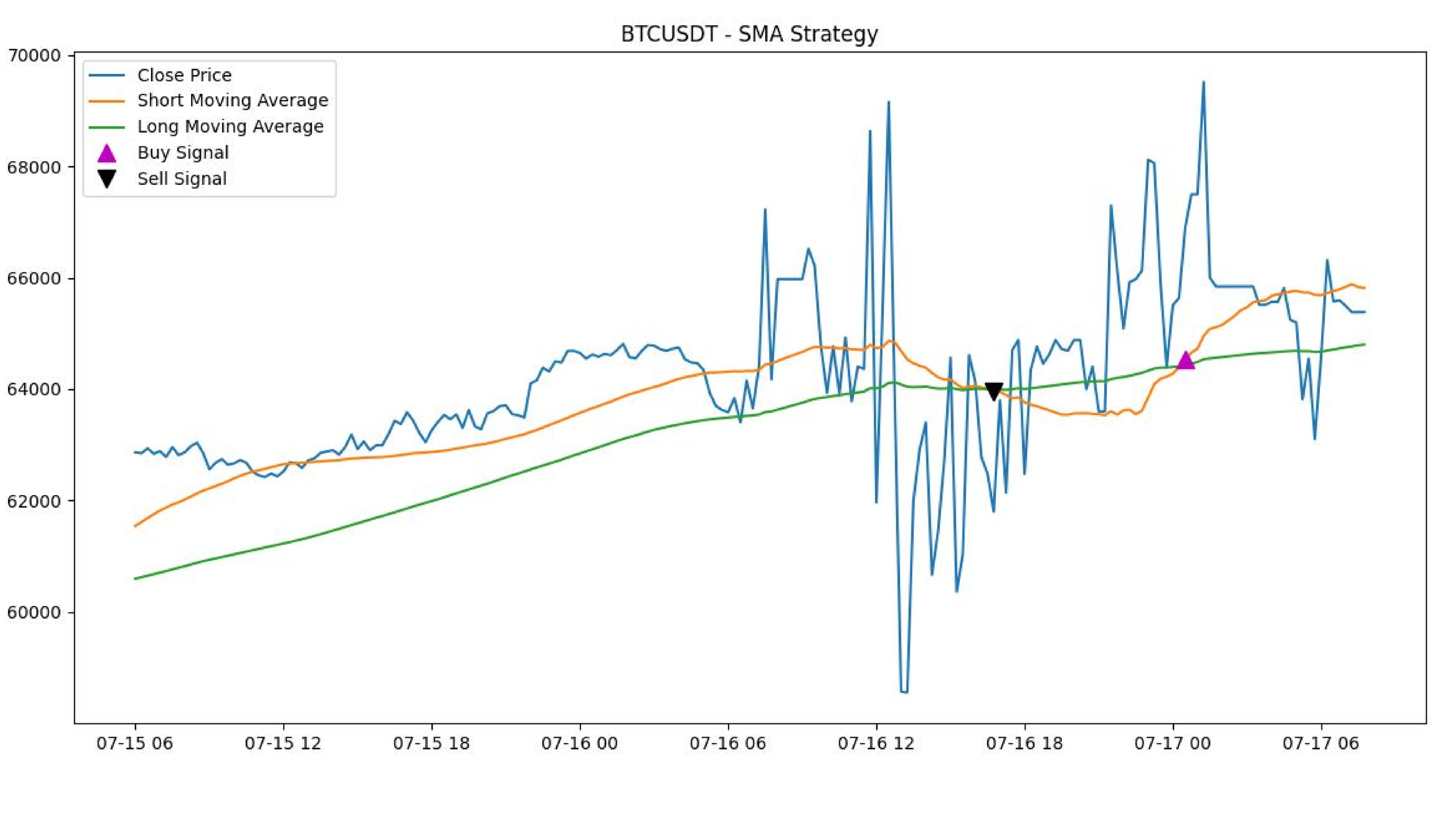


Trade algorithms

Ensemble




```
if |result| > RES_CONST:
   trade
else:
    hold
```


BTCUSDT - SMA Strategy
Close Price
Short Moving Average
Long Moving Average
Buy Signal
Sell Signal
70000
68000
66000
64000
62000
60000
07-15 06
07-15 12
07-15 18
07-16 00
07-16 06
07-16 12
07-16 18
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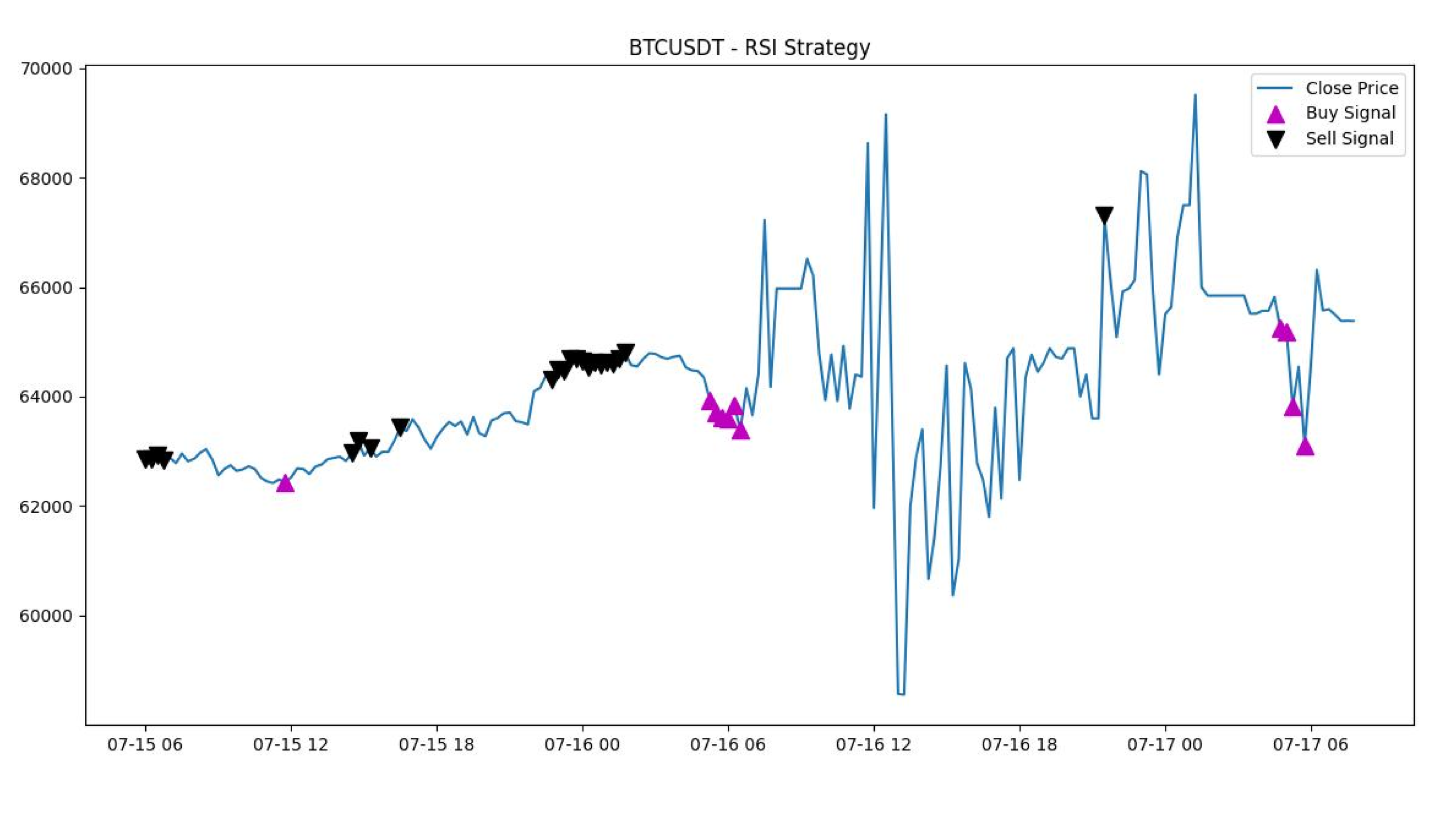
07-17 06


BTCUSDT - RSI Strategy
Close Price
Buy Signal
Sell Signal
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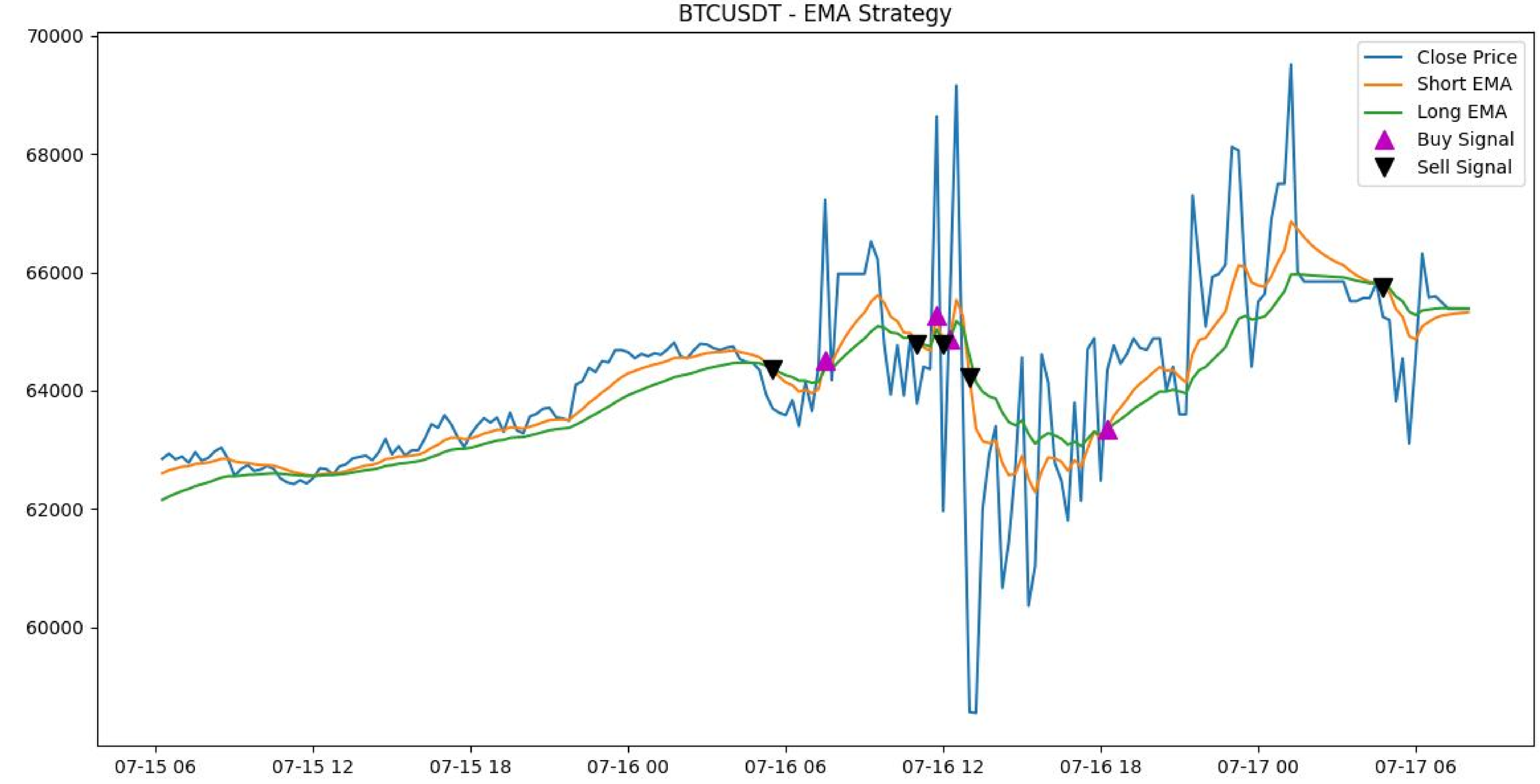
BTCUSDT - EMA Strategy
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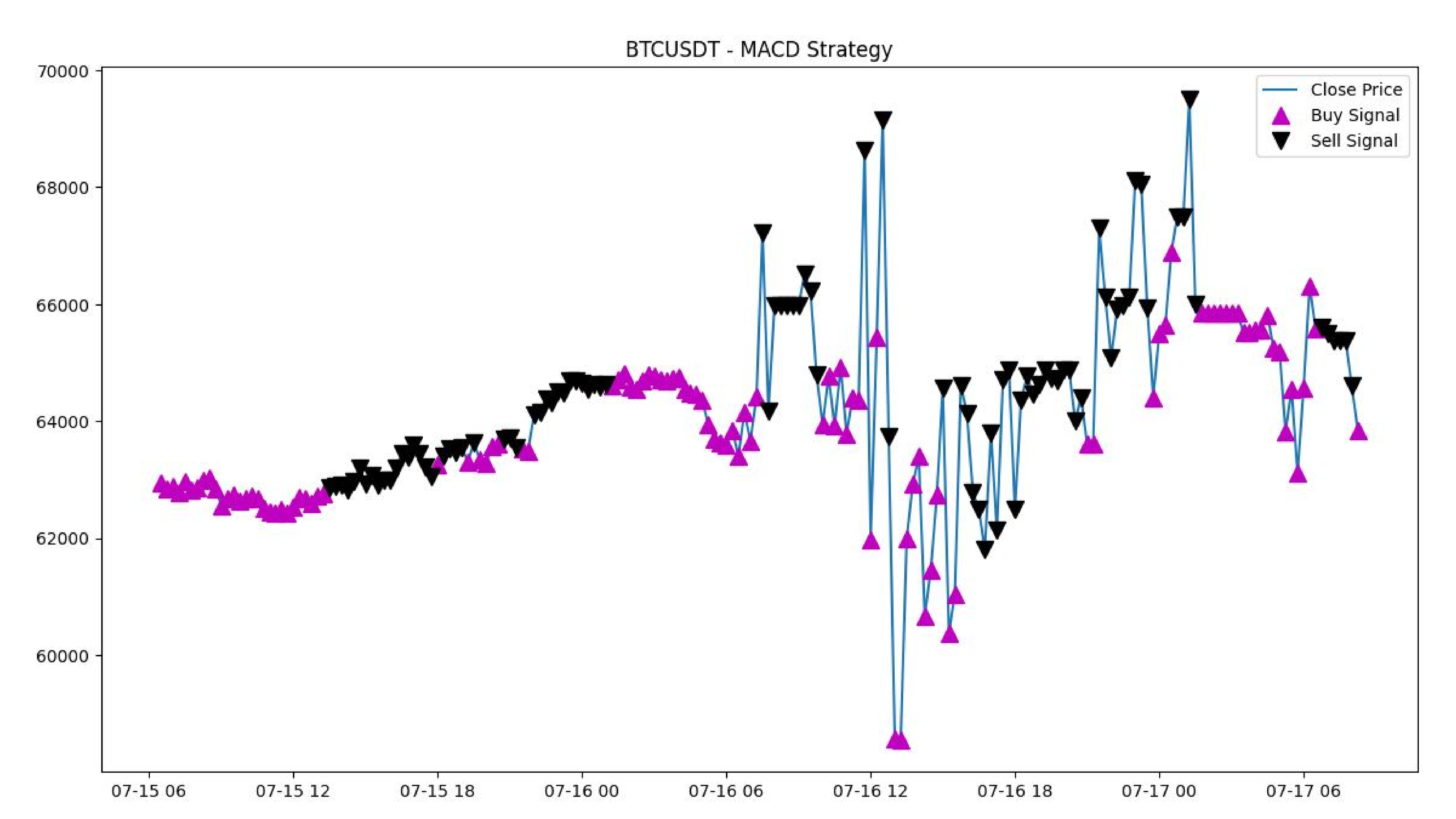
07-17 06
Close Price
Short EMA
Long EMA
Buy Signal
Sell Signal


BTCUSDT - MACD Strategy
Close Price
Buy Signal
Sell Signal
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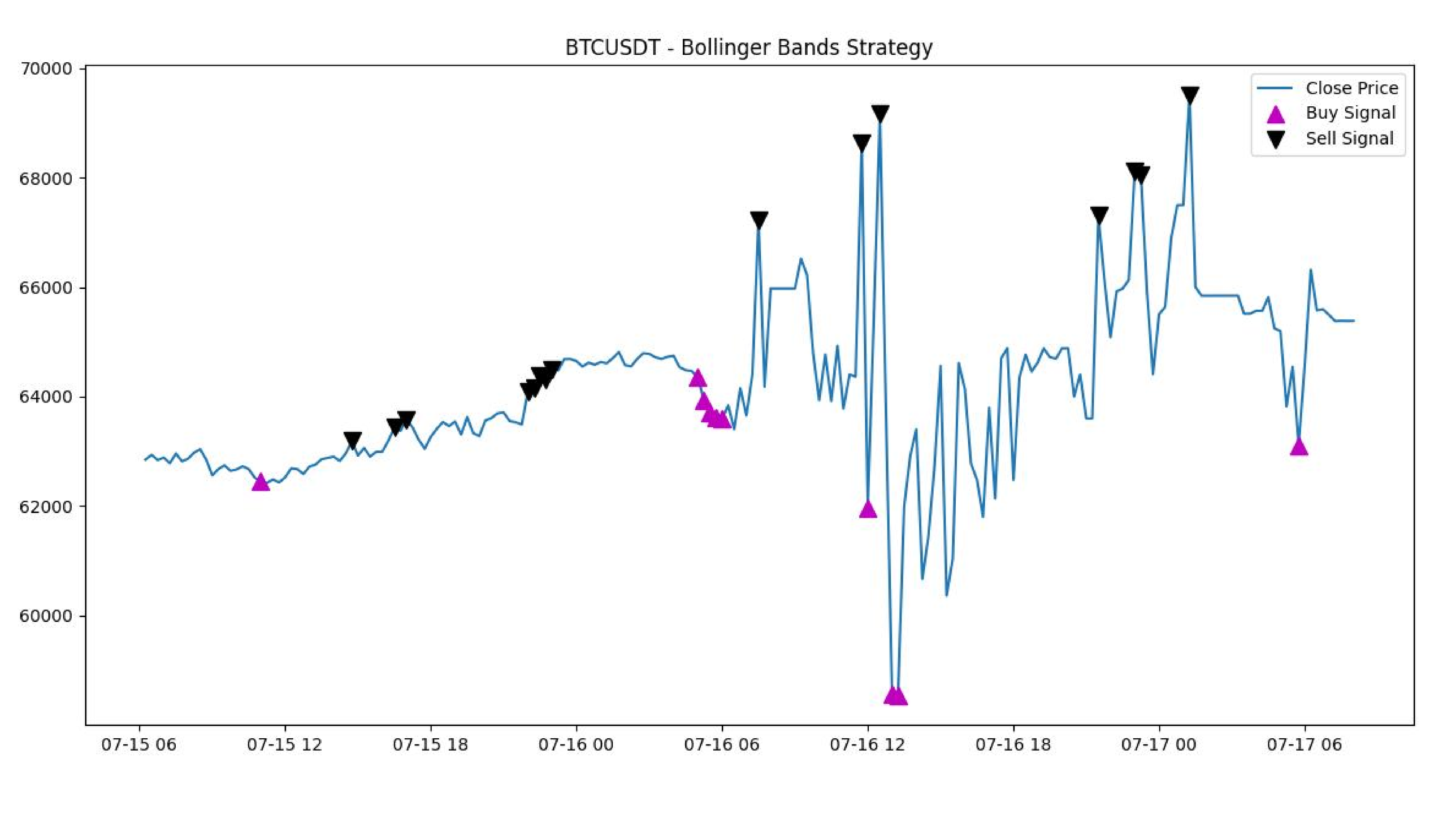
BTCUSDT - Bollinger Bands Strategy
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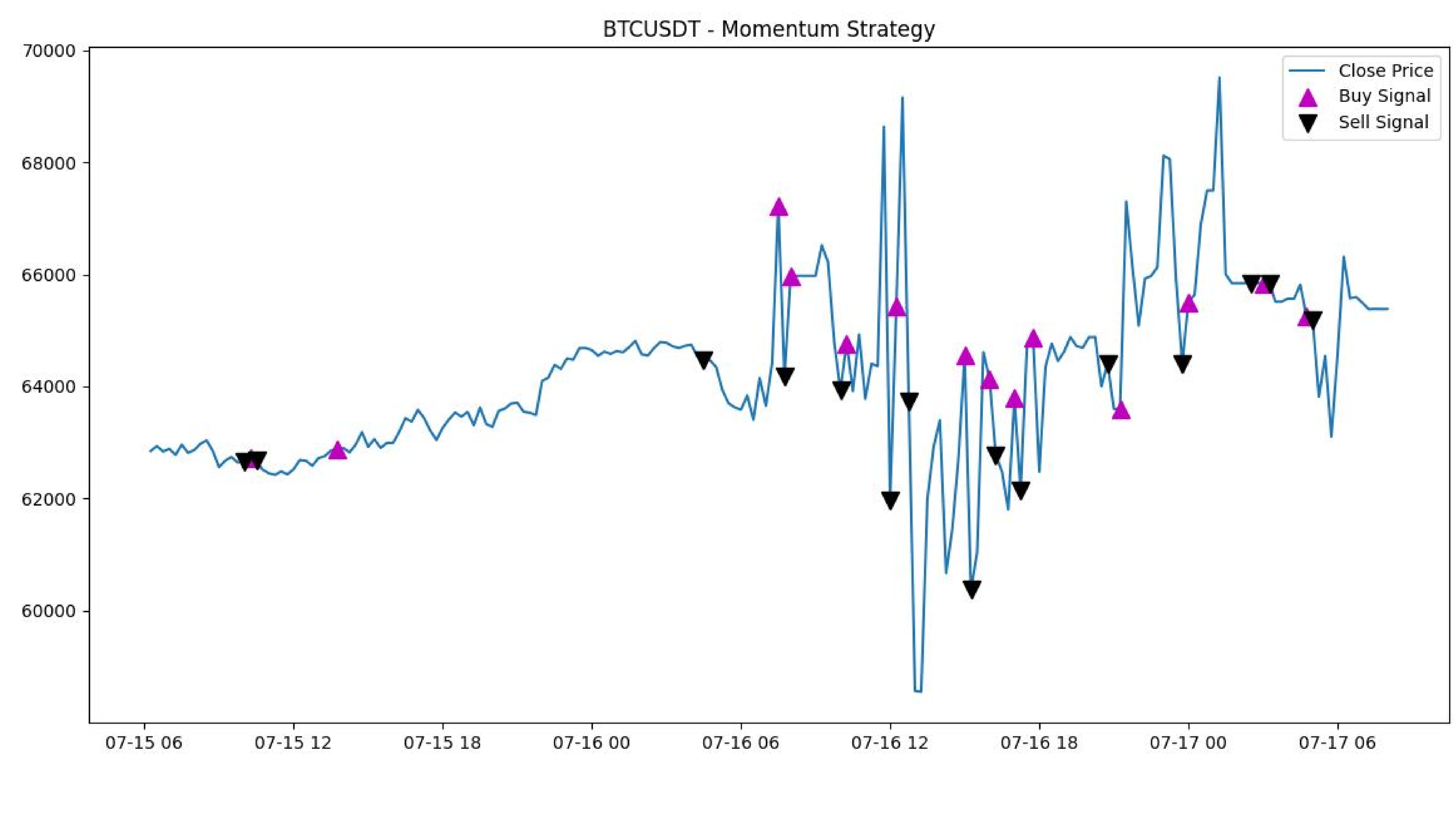
07-17 00
07-17 06
Close Price
Buy Signal
Sell Signal


BTCUSDT - Momentum Strategy
Close Price
Buy Signal
Sell Signal
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07-17 00
07-17 06

Timeline

Week 1

Problem research, team selection and roadmapping

Week 2

Architecture design and choice of technical stack

Week 3

First working versions of ML models and trade algotithms

Week 4

Web interface design, second version of ML and trade algorithms

Week 5

Frontend development and conducting the first operations on the exchange in test mode

Week 6

MVP v1.0

Team

Shamil Kashapov

Fullstack developer

Bulat Latypov

Backend developer

Ivan Golov

Team Lead

Andrey Pavlov

Trade algorithms developer

Dmitriy Nekrasov

ML engineer

Daniil Abrosimov

ML engineer

Yaroslav Prudnikov

UX/UI designer

Future work

Advanced predictions

Integrate more advanced trading algorithms and AI techniques for more stable predictions

Community

Start active community development through social networks, forms and conferences

Buisness model

Explore ways to monetise the project and attract investment capital for further development

User interaction

Implement a user-friendly web interface or mobile application to allow users to interact with our product

References

ATS_bot GitHub

ATS_ML GitHub