

A decorative graphic on the left side of the slide. It consists of a blue parallelogram and a light green parallelogram, both tilted at an angle. The blue shape is in the foreground, and the green shape is partially behind it. They are set against a dark blue background with subtle diagonal lines.

Crude Oil Fully Automated Trader

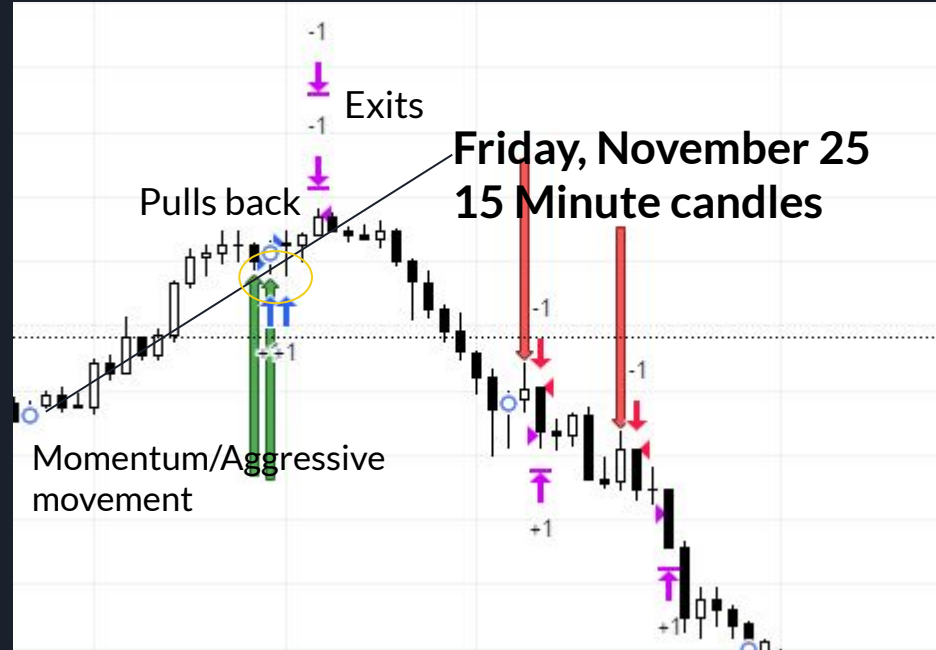


Purpose

- Automatically buy and sell crude oil futures
- Algo has no human emotions: great scalability
- Futures margin
- Diversification, I only trade SP500 derivatives
- 23/6 trading

Functionality

1. Identifies when momentum is present
2. Recognizes trend overextensions
3. Enters on retracement
4. Exits calculated using current volatility



Backtesting Results

- Results over past 3 months
- Starting capital of \$20,000 (lower amount possible)
- Position size scales with account size
- Slippage accounted for (difference between expected price of a trade and actual)*



Backtesting Results cont.

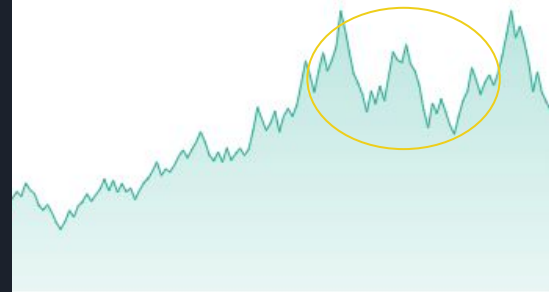
- Sharpe Ratio(risk-adjusted return)
 - Although <1 , day trading is aggressive
- Big drawdown occurs
 - Could be fixed by optimizing position sizing
- Short trades make considerably more than long trades given past 3 months

Sharpe Ratio

0.795

Max Drawdown

53 160.00 USD
39.3%



Total:

1.184

Long:

1.064

Short:

1.334

Performance Summary: Profit Factor [🔗](#)

The amount of money a trading strategy made for every unit of money it lost (in the selected currency). This value is calculated by dividing gross profits by gross losses.

Possible Limitations

- Lack of data - only goes back to September 1st (~3 months)
 - Counter: few constants in calculations, very volatility based, longs and shorts
 - Can always tweak numbers
- Liquidity - entries tend to be accurate
 - Big institutional position sizing
 - Vs. for a retail trader (me)
- Actual slippage has a significant impact on results

1 Tick

Net Profit ⓘ
79 610.00 USD 398.05%

2 Ticks

Net Profit ⓘ
42 740.00 USD 213.7%

3 Ticks

Net Profit ⓘ
18 940.00 USD 94.7%

Trading range

2022-08-31 22:45 – 2022-12-01 09:15

Backtesting range

2022-08-31 18:00 – 2022-12-01 09:15

What's Next?

- Implement code to send orders via a broker (Tradovate API)
- Strategy optimizations - win rate is subpar
- Position sizing
 - Regression optimization based on volatility, time of day, etc

MCL Micro Crude Oil

SPECIFICATIONS

Value Per Point
\$100.00

Months [?]
FGHJKMNQVXZ

Tick
0.01 / \$1.00

TRADING HOURS

Sunday Open
17:00 (CT)

Open
17:00 (CT)

Close
16:00 (CT)

FEES

Exchange Fee
\$0.50

NFA Fee
\$0.02

Clearing Fee
\$0.09

MARGIN VIEW ALL

Day
\$100.00

Night
-

Initial
\$825.00

CL Crude Oil

SPECIFICATIONS

Value Per Point
\$1000.00

Months [?]
FGHJKMNQVXZ

Tick
0.01 / \$10.00

TRADING HOURS

Sunday Open
17:00 (CT)

Open
17:00 (CT)

Close
16:00 (CT)

FEES

Exchange Fee
\$1.50

NFA Fee
\$0.02

Clearing Fee
\$0.09

MARGIN VIEW ALL

Day
\$2000.00

Night
-

Initial
\$8250.00

Process behind this, DIY

Look At Charts

What patterns are noticed?

01

Formulate Hypothesis

How can the patterns be quantified?

02

Tweak Values

How can the strategy be optimized?

03

Test With Code

How can the hypothesis be represented with code?



Q&A





02/2023 Addendum

I worked on optimizing this strategy for another month after presenting to BUFC and now have access to 8 months of data to backtest on. Now, results are not near the ~400% as shown, closer to 200% over an 8 month period, leading me to believe that overfitting was present for the original, presented strategy. I have put the development of this strategy on hold to focus on other strategies, as this model seems too unreliable.