

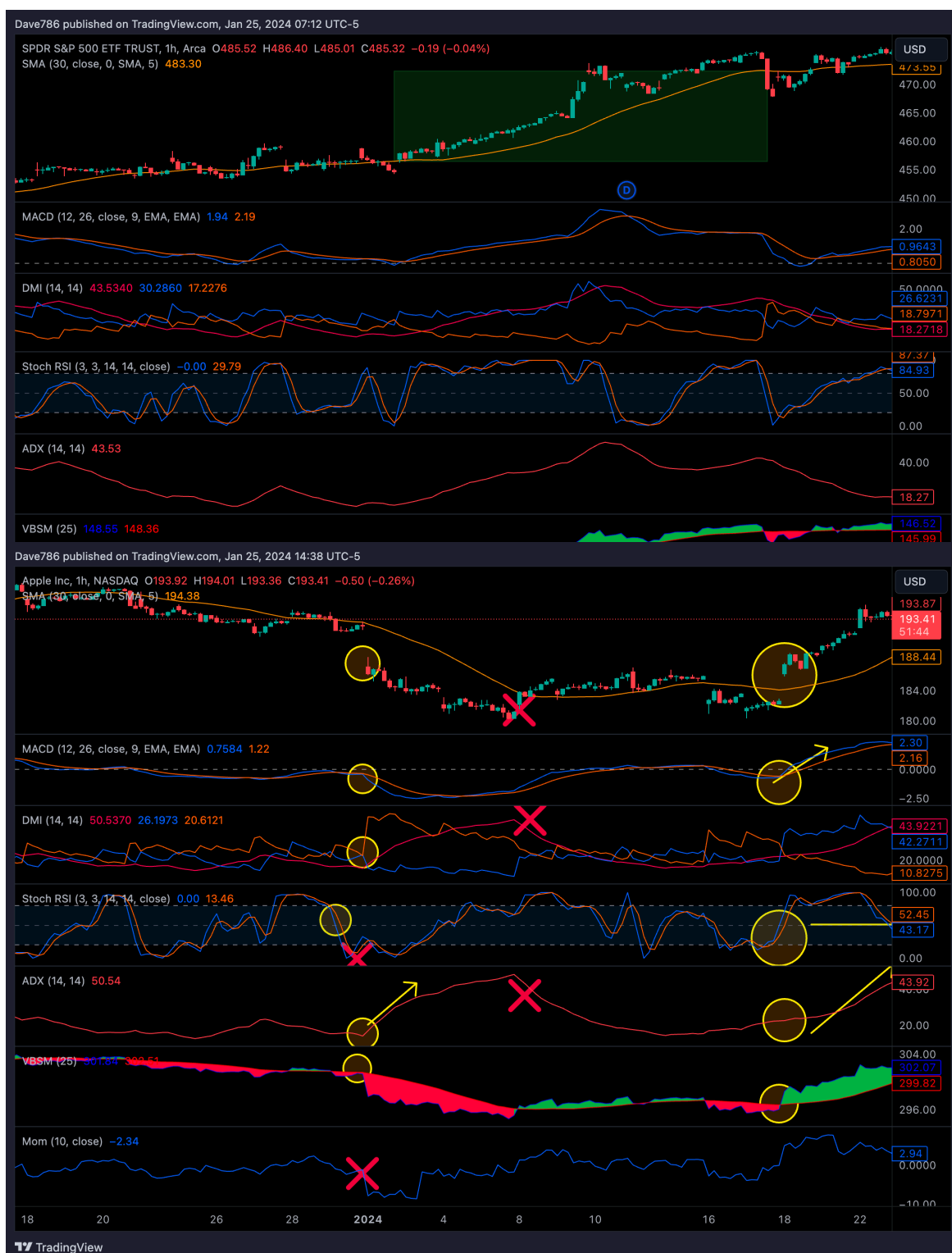
Algo Kalyajian 2024

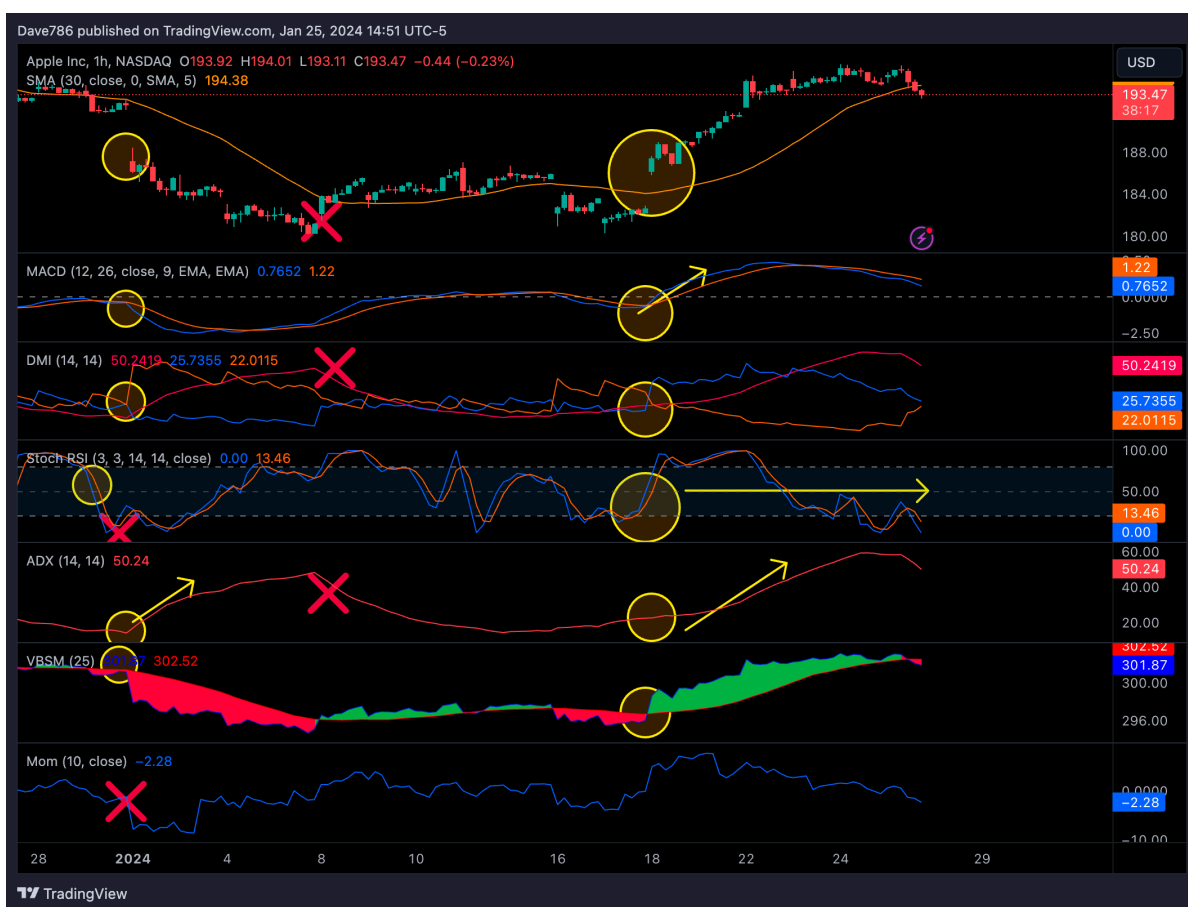
Dawood Mehmood (c)

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Brief

1. To create a simple bot that buys and sells options based on a particular criteria
2. Can manually increase amount of option contracts I can purchase
3. Can close trade manually
4. Can manually add/remove stocks
5. System should be able to handle up to 20 simultaneous trades
6. System should be able to analyse up to 50 securities (stocks) simultaneously
7. Build this in a modularised way, so that later on it can be used for Stocks, Forex, Futures etc
8. Time frame: 1 hour
9. Clean and excellent quality code
10. Descriptions written throughout code as to what the code does
11. All source code to be provided to me in a readable and deployable format
12. Output should be ready for both Windows and Linux





Long Entry

Any combinations of the below not necessary dependent on one another, and any combination, should be able to switch any of these off or on as exit criteria

Primary Indicators: SMA, MACD, DMI, VBSM

Secondary Indicators: Stoch RSI, ADX and Momentum

Secondary indicators are there to support how good a setup is it. Is it an A1 or A or B1 or B setup.

	SMA	MACD	DMI	Stoch RSI	ADX	VBSM	MOM
Long	Above or at	Cross over going up	Blue over orange and red	Below 50	Increasing	Green	Increasing
Long Best	Above or at	Cross over going up	Blue over orange and red Expansion	Below 50	Increasing	Green	Increasing

	SMA	MACD	DMI	Stoch RSI	ADX	VBSM	MOM
Long	Above or at	Cross over going up	Blue over orange and red	Above 50	Increasing	Green	Increasing
Long	Above or at	Cross over going up below 0	Blue over orange and red	Below 50	Increasing	Green	Increasing
Long	Above or at	Cross over going up above 0	Blue over orange and red	Below 50	Increasing	Green	Increasing

Exit

Any combinations of the below not necessary dependent on one another, and any combination, should be able to switch any of these off or on as exit criteria

	SMA	MACD	DMI	Stoch RSI	ADX	VBSM	MOM
1	Touching	Cross over	Blue touches red	-	Monitor: Decreasing	-	Monitor: Decreasing
2	Can be above	Cross over	Blue touches red and/or orange	-	Monitor: Decreasing	Red	Monitor: Decreasing

Short Entry

Any combinations of the below not necessary dependent on one another, and any combination, should be able to switch any of these off or on as exit criteria

	SMA	MACD	DMI	Stoch RSI	ADX	VBSM	MOM
Short	Below or at	Cross over going down	Orange over blue and red	Above 50	Increasing	Red	Increasing
Short Best	Below or at	Cross over going down	Orange over Blue and red Expansion	Above 50	Increasing	Red	Increasing
Short	Below or at	Cross over going down	Orange over blue and red	Below 50	Increasing	Red	Increasing
Short	Below or at	Cross over going down below 0	Orange over blue and red	Above 50	Increasing	Red	Increasing

	SMA	MACD	DMI	Stoch RSI	ADX	VBSM	MOM
Short	Below or at	Cross over going down below 0	Orange over blue and red	Above 50	Increasing	Red	Increasing
Short	Below or at	Cross over going down below 0	Orange over blue and red	Below 50	Decreasing	Red	Increasing
Short	Below or at	Cross over going down below 0	Orange over blue and red	Below 50	Decreasing	Red	Decreasing

Exit

Any combinations of the below not necessary dependent on one another, and any combination, should be able to switch any of these off or on as exit criteria

	SMA	MACD	DMI	Stoch RSI	ADX	VBSM	MOM
1	Touching	Cross over	Orange touches red	-	Monitor: Decreasing	Red	Monitor: Decreasing
2	Can be below	Cross over	Orange touches red and/or Blue	-	Monitor: Decreasing	Red	Monitor: Increasing
3	Touching	Cross over	Orange touches red and/or Blue	-	Monitor: Increasing	Red	Monitor: Decreasing
4	-	Cross over	Orange touches red and/or Blue	-	Monitor: Increasing	Red	Monitor: Decreasing

Indicators

1. We can make it so if price is .01% or so distance from the MA, and if was at a distance of over .01% over/under MA in the past X candles, than it's counted as price being in the assumed side of the MA (.01% is just a number that can change to fine tune it)
2. SMA - Length 30, Close, Offset 0; Smoothing Method SMA, Length 5
3. MACD - 12, 26, 9
4. DMI 14, 14
5. Stoch RSI 3, 3, 14, 14,
6. ADX 14, 14
7. VBSM - Volume Based Buy and Sell Momentum
 1. study(title="Volume Based Buy and Sell Momentum by 2tm", shorttitle="VBSM")
 2. EMA_Len = input(25, title="Lenth", minval=1)
 3. xROC = roc(close, 1)
 - 4.
 5. nRes1 = iff(volume < volume[1], nz(nRes1[1], 0) + xROC, nz(nRes1[1], 0))

6. `nRes2 = iff(volume > volume[1], nz(nRes2[1], 0) + xROC, nz(nRes2[1], 0))`
7. `nRes3 = nRes1 + nRes2`
- 8.
9. `nResEMA3 = sma(nRes1, EMA_Len) + sma(nRes2, EMA_Len)`
- 10.
- 11.
12. `PNVI = plot(nRes3, color=blue, title="PVI + NVI")`
13. `PEMA = plot(nResEMA3, color=red, title="EMA")`
- 14.
15. `pCol = nRes3 > nResEMA3 ? blue : red`
- 16.
17. `fill (PNVI, PEMA, pCol)`
8. Momentum

Must be configurable:

1. Creating a Tolerance level for each indicator; all percentages are configurable
 1. for example, 0.5% of MACD (Config) - so it can enter the trade into the trade with MACD 'about' to cross and not necessarily cross, or after cross - see below
 2. 0.2% of the SMA
2. MACD configurable settings
 1. Allow all formulas at once
 2. Allow MACD to cross first then the rest can follow
 3. It can also be for example that the DMI (for long) goes positive first, then 2 candles later the MACD turns and other symbols also turn, then we can enter
 1. But we must track
 1. Direction of candles
 2. How many candles above/below the SMA
 3. Percentage increase/decrease
 4. Price increase/decrease
 5. This would allow me to manually track and see what the changes will be if needed
 6. Eventually an average percentage can be understood that if for example
 1. If the MACD turns before the DMI, and the candle has already moved above the SMA before entry, then how much trade is left and is it profitable?
3. MACD, DMI and VBSM can be positive before long or negative before long entry, but the key at the point of entry, should be above if it is a long trade or below if a short.



Risk Management

Make all the following configurable

1. Enter as soon as the conditions are met and the candle is above/around SMA, even if candle isn't closed (but this shouldn't be hard coded, so that it can change to once one candle closes)
2. Trade at candle open, but it shouldn't close if it touches the SMA
3. Only to allow to buy/sell 1 options contract at a time for now (can increase)
4. Only allow one stock to be traded at one time, but adjustable to allow more than one
5. To be able to manually exit individual trades
6. Create an emergency terminate mechanism
7. Can start and stop the system when I want.
8. System to run continuously and automatically
9. To use 50% of account equity value (adjustable)
10. Take profit defined as percentage or monetary value of the option contract (NOT the stock increase) – example 10% or \$100. – configurable
11. Options Drawdown prevent - no more than 10 percent loss (configurable)

Alerts Module - Discord

Need to receive continuous alerts from the system

1. Entry
2. Exit
3. No entry – if unable to enter trade due to
 1. System error
 2. Rejected by Broker
 3. System already in trade (because only 1 (configurable) trade is allowed)
4. Receive alerts for the whole list of symbols for each timeframe
 1. Should look like this:
 1. AAPL – 5m – Entry – TIMESTAMP
5. See open trades in Discord
6. See profit/loss in Discord
7. Close individual trade
8. Close the entire system
9. Start the entire system
10. Reporting to be detailed like the HTML you showed me, I'm sure it can be done in Discord; I want it to be in short form text and then detailed in html
11. In different Discord channels to divide information so it's easier to read

Securities - *any I would like to add*

1. AAPL
2. AMD
3. AMZN
4. BA
5. BABA
6. BYND
7. DIA
8. DIS
9. META
10. GOOG
11. JD
12. MA

13. MCD
14. MSFT
15. NFLX
16. NVDA
17. PYPL
18. QQQ
19. ROKU
20. SHOP
21. SNAP
22. SPCE
23. SPOT
24. SPY
25. TEAM
26. TSLA
27. TWTR
28. UBER
29. ZM
30. ES
31. MES
32. CL
33. MCL
34. GS
35. MGS

Options Contract Execution

1. Options are a derivative market, they derive their value from the underlying stock. Eg: so the Apple Option derives its value from the Apple Stock.
2. An Option Contract comprises of an expiry date, strike price and contract type.
3. Option contract Criteria:
 - a. Buy 1 contract only
 - b. Strike price - In the Money - Current
 - c. Contract type - Long = **BUY Call**, short = **BUY Put**
 - d. Open Interest - must be over 2000 (configurable)
 - e. Contract length depends on the following:
 - i. 5-7 days (If Monday, Tuesday or Wednesday = Friday expiry, if Thursday and Friday = next Friday)
 - f. Drawdown prevent - no more than 10 percent loss (configurable)

Futures Contract

TBD

System

1. Cloud based
2. Save history of trades
3. Roll out on paper trading, once successful roll out in live