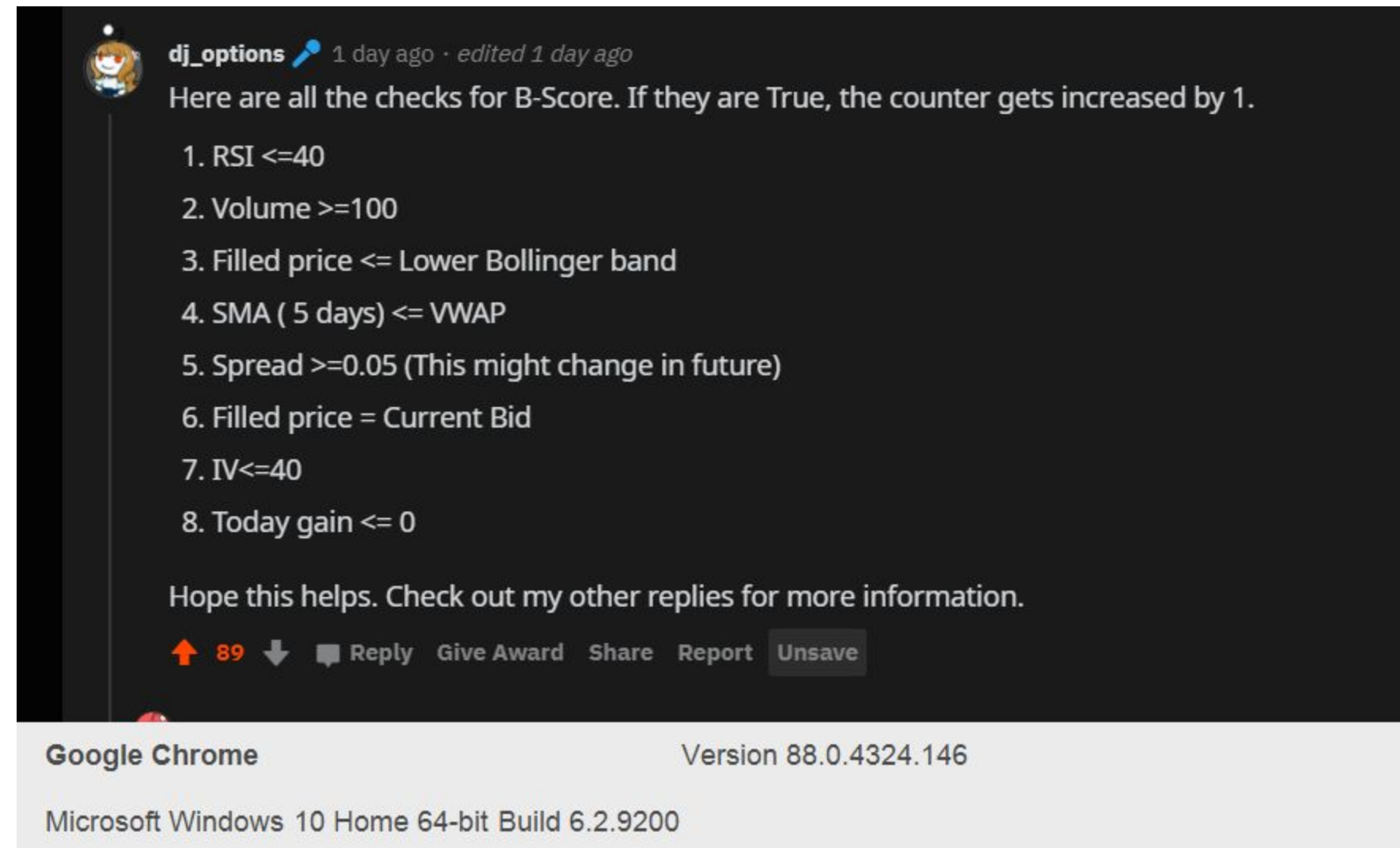


https://www.reddit.com/r/algotrading/comments/ldkt1z/options_trading_with_automated_ta/

Dj_options Automated Technical Analysis, Stock Filterer.

Plan-

1. Use scrapy to pull tickers that match rough criteria off Finviz. [HowTo](#)
 - 1a. Enrich data with additional “endpoints”. Data is on Yahoo and Robinhood. Recommendations lean towards using the TD API instead of Robinhood Official API (less updates that break it). Op used Robinhood.
 - 1b. Use Ta-lib Python library to add additional Technical Analysis Criteria. Op’s criteria is below.



The **volume weighted average price (VWAP)** is a trading benchmark used by traders that gives the average price a security has traded at throughout the day, based on both volume and price. It is important because it provides traders with insight into both the trend and value of a security. Guessing that VWAP for one day

(Maybe add MACD as a 9th indicator)

Here are some of the important links which are under the hood:

Robinhood API: https://github.com/jmfernandes/robin_stocks

Documentation of Robinhood API: <https://robin-stocks.readthedocs.io/en/latest/functions.html#getting-positions-and-account-information>

Scrapy in python: <https://scrapy.org/>

Finviz settings: https://www.finviz.com/screener.ashx?v=111&f=cap_small,geo_usa,sh_avgvol_o300,sh_opt_option,sh_short_low&ft=4&o=-change

Yahoo endpoint: <https://query2.finance.yahoo.com/v7/finance/options/ivr>

1/ what is DTE (Days To Expiration) ? Only calls? How to choose strike price?

Exit orders are usually 10-20 cents up from buy order. Yep, only calls for now. First, I only look at B-Score then other details like strike, bid etc. based on available money in account.

2/ what is your exit plan? Stop at 30%? Sell at 100% gain?

I usually sell at around 30% quick gains. I have seen calls doing 400% if I hold a bit longer but I don't do that. There are plenty of options available to make profit from.

3/ you have bscore(buy score, totally arbitrary name) max 8. Does that mean you have total 8 rules?

Yes, total 8 rules which worked so far.

4/ how do you calculate TA? On your own or some lib?

I use ta-lib in python for doing TA on 1 month range ohlc(Open-high-low-close chart) data. Automated technical analysis for historical options data.

How to install ta-lib: <https://blog.quantinsti.com/install-ta-lib-python/>

Current Time: 2021-02-03 00:53:15																	
Sr. no.	Ticker	Strike	Expiry	Bid	Filled	Ask	Ideal (Buy/Sell)	Spread	Vol /	OI	BB (S/R)	RSI	VWAP	SMA(5)	Todays gain	IV	B-Score
1	TWO	10.00	2022-01-21	76 x 0.15	5 x 0.17	80 x 0.20	0.15 / 0.20	0.09	245 /	4041	0.15 / 0.32	43.57	0.27	0.24	-21.74	39.89	7 / 8
2	MFA	5.00	2022-01-21	427 x 0.20	1 x 0.25	1 x 0.25	0.21 / 0.25	0.04	194 /	4092	0.25 / 0.25	53.97	0.25	0.25	+0.00	37.50	6 / 8
3	NYMT	4.00	2022-01-21	515 x 0.40	1 x 0.45	5 x 0.50	0.42 / 0.49	0.10	157 /	10202	0.42 / 0.50	57.60	0.46	0.46	-10.00	31.44	6 / 8
4	TWO	7.00	2022-01-21	313 x 0.50	1 x 0.59	25 x 0.60	0.51 / 0.59	0.08	1271 /	4596	0.53 / 0.71	44.08	0.59	0.62	-5.17	32.98	6 / 8
5	RWT	15.00	2022-01-21	2 x 0.15	3 x 0.15	10 x 0.20	0.15 / 0.19	0.05	16 /	5759	0.11 / 0.29	27.58	0.22	0.20	+0.00	38.95	6 / 8
6	IVR	5.00	2022-01-21	4 x 0.40	12 x 0.45	7 x 0.45	0.40 / 0.44	0.16	802 /	25941	0.42 / 0.68	61.39	0.66	0.55	-23.21	52.24	5 / 8
7	IVR	7.00	2022-01-21	77 x 0.25	1 x 0.25	33 x 0.26	0.25 / 0.26	0.12	2491 /	38864	0.19 / 0.52	54.73	0.38	0.35	-25.71	61.64	5 / 8
8	IVR	4.50	2022-01-21	22 x 0.52	8 x 0.52	15 x 0.54	0.52 / 0.54	0.13	298 /	16291	0.46 / 0.93	56.95	0.84	0.69	-20.90	50.50	5 / 8
9	IVR	4.50	2023-01-20	7 x 0.73	3 x 0.73	2 x 0.75	0.73 / 0.75	0.09	303 /	8251	0.68 / 0.99	63.86	0.86	0.83	-6.33	45.13	5 / 8
10	MFA	5.00	2023-01-20	297 x 0.35	9 x 0.55	6 x 0.65	0.41 / 0.62	0.35	34 /	3217	0.49 / 0.63	55.49	0.57	0.56	-13.79	39.51	5 / 8
11	NYMT	7.50	2023-01-20	4 x 0.15	17 x 0.15	22 x 0.20	0.15 / 0.19	0.05	23 /	281	0.11 / 0.23	53.06	0.19	0.17	+0.00	39.81	5 / 8
12	TWO	7.00	2023-01-20	1 x 0.85	3 x 0.88	64 x 0.95	0.85 / 0.93	0.22	359 /	1693	0.84 / 1.17	43.20	0.99	1.01	-16.67	33.04	5 / 8
13	RWT	12.50	2022-01-21	20 x 0.30	5 x 0.35	130 x 0.45	0.31 / 0.42	0.00	7 /	789	0.32 / 0.40	39.09	0.35	0.36	+0.00	37.36	5 / 8
14	RWT	7.50	2022-01-21	50 x 1.75	1 x 1.80	1 x 1.95	1.79 / 1.93	0.00	26 /	372	1.76 / 1.94	49.09	1.86	1.85	-5.13	29.79	5 / 8
15	IVR	3.00	2022-01-21	10 x 1.07	1 x 1.10	30 x 1.10	1.07 / 1.10	0.14	108 /	12228	1.02 / 1.45	60.46	1.34	1.24	-12.10	43.15	4 / 8
16	IVR	5.50	2022-01-21	1 x 0.37	10 x 0.38	4 x 0.39	0.37 / 0.39	0.12	280 /	12432	0.33 / 0.65	58.07	0.57	0.49	-20.83	55.64	4 / 8
17	IVR	3.50	2022-01-21	5 x 0.80	1 x 0.86	2 x 0.86	0.81 / 0.85	0.24	383 /	19647	0.80 / 1.13	62.82	1.03	0.96	-16.16	45.07	4 / 8
18	IVR	5.50	2023-01-20	1 x 0.56	1 x 0.57	1 x 0.57	0.56 / 0.57	0.32	279 /	14637	0.55 / 0.72	66.69	0.73	0.63	-12.31	48.19	4 / 8
19	IVR	3.00	2023-01-20	1 x 1.14	5 x 1.17	16 x 1.17	1.14 / 1.17	0.19	365 /	7848	1.12 / 1.72	55.59	1.39	1.42	-17.73	34.50	4 / 8
20	IVR	4.00	2023-01-20	4 x 0.81	1 x 0.82	2 x 0.82	0.81 / 0.82	0.20	979 /	42019	0.79 / 1.09	65.25	0.99	0.94	-11.83	41.34	4 / 8
21	IVR	5.00	2023-01-20	2 x 0.61	1 x 0.63	1 x 0.62	0.61 / 0.62	0.27	647 /	12506	0.60 / 0.88	61.79	0.82	0.74	-11.43	45.56	4 / 8
22	MFA	5.50	2022-01-21	206 x 0.15	1 x 0.20	377 x 0.25	0.16 / 0.24	0.10	66 /	4521	0.20 / 0.20	56.07	0.23	0.20	-13.04	41.58	4 / 8
23	MFA	4.50	2022-01-21	16 x 0.30	2 x 0.34	2 x 0.35	0.30 / 0.35	0.01	14 /	3245	0.30 / 0.38	52.92	0.35	0.34	+0.00	36.50	4 / 8
24	MFA	5.50	2023-01-20	10 x 0.35	12 x 0.45	7 x 0.55	0.38 / 0.52	0.05	10 /	3091	0.50 / 0.50	59.58	0.50	0.50	-6.25	42.05	4 / 8
25	NYMT	3.00	2022-01-21	1 x 0.90	11 x 0.95	1 x 1.05	0.92 / 1.02	0.01	16 /	1237	0.82 / 1.08	56.74	0.98	0.95	+0.00	24.65	4 / 8
26	NYMT	5.00	2023-01-20	4 x 0.45	5 x 0.45	2 x 0.60	0.47 / 0.57	0.00	5 /	546	0.42 / 0.62	53.89	0.50	0.52	+0.00	39.70	4 / 8
27	TWO	5.00	2023-01-20	2 x 1.65	1 x 1.75	21 x 1.85	1.67 / 1.81	0.10	44 /	1313	1.57 / 1.97	50.28	1.79	1.77	-7.89	30.83	4 / 8
28	TWO	10.00	2023-01-20	1 x 0.45	2 x 0.50	56 x 0.50	0.45 / 0.49	0.25	34 /	482	0.42 / 0.74	48.75	0.59	0.58	+0.00	39.28	4 / 8
29	NRZ	10.00	2023-01-20	3 x 1.85	1 x 1.85	1 x 2.05	1.88 / 2.01	0.48	65 /	1314	1.61 / 2.01	54.90	1.85	1.81	+6.56	35.67	4 / 8
30	NLY	15.00	2023-01-20	2 x 0.10	1 x 0.10	1 x 0.13	0.10 / 0.13	0.02	2 /	801	0.05 / 0.12	55.44	0.09	0.09	+0.00	27.25	4 / 8
31	MFA	4.00	2022-01-21	14 x 0.45	10 x 0.50	51 x 0.50	0.45 / 0.49	0.10	344 /	6830	0.45 / 0.54	57.17	0.48	0.49	+0.00	35.52	3 / 8
32	NYMT	5.50	2022-01-21	667 x 0.10	1 x 0.20	284 x 0.25	0.11 / 0.23	0.00	11 /	775	0.16 / 0.22	64.82	0.19	0.19	-10.00	38.70	3 / 8
33	NYMT	4.50	2022-01-21	25 x 0.30	1 x 0.35	5 x 0.35	0.30 / 0.35	0.05	97 /	7246	0.28 / 0.36	68.65	0.32	0.32	+0.00	34.85	3 / 8
34	NYMT	4.00	2023-01-20	1 x 0.65	9 x 0.80	1 x 0.80	0.67 / 0.77	0.10	12 /	627	0.58 / 1.04	54.35	0.81	0.81	-6.41	34.88	3 / 8
35	NYMT	3.50	2023-01-20	1 x 0.90	10 x 0.95	19 x 1.00	0.91 / 0.98	0.00	11 /	370	0.84 / 1.05	56.27	0.95	0.95	+2.15	34.87	3 / 8
36	RWT	7.50	2023-01-20	10 x 1.80	3 x 2.40	10 x 2.40	1.88 / 2.28	0.20	6 /	414	1.45 / 2.65	55.96	2.23	2.05	-6.67	27.11	3 / 8
37	NLY	10.00	2022-01-21	43 x 0.20	10 x 0.25	120 x 0.25	0.20 / 0.24	0.05	77 /	14549	0.23 / 0.25	65.95	0.21	0.24	-4.17	21.80	3 / 8
38	MFA	3.50	2022-01-21	50 x 0.65	1 x 0.70	2 x 0.75	0.66 / 0.74	0.10	11 /	7835	0.62 / 0.76	53.02	0.66	0.69	-4.11	34.59	2 / 8
39	MFA	4.00	2023-01-20	23 x 0.75	3 x 0.80	7 x 0.85	0.76 / 0.84	0.04	8 /	878	0.67 / 0.81	55.62	0.76	0.74	+2.56	39.83	2 / 8
40	NYMT	7.50	2022-01-21	145 x 0.05	2 x 0.10	1 x 0.10	0.06 / 0.10	0.04	38 /	521	0.07 / 0.12	49.70	0.09	0.09	-38.46	45.68	2 / 8
41	NYMT	5.00	2022-01-21	349 x 0.20	1 x 0.25	26 x 0.30	0.21 / 0.29	0.03	5 /	1697	0.21 / 0.27	61.68	0.23	0.24	+8.70	37.60	2 / 8
42	RWT	10.00	2022-01-21	20 x 0.75	1 x 0.80	25 x 0.85	0.76 / 0.84	0.10	11 /	6581	0.70 / 0.86	47.70	0.74	0.78	-3.61	33.97	2 / 8
43	NRZ	8.00	2022-01-21	340 x 2.45	1 x 2.56	5 x 2.75	2.51 / 2.72	0.16	287 /	6213	2.08 / 2.62	62.12	2.40	2.35	+7.44	40.67	2 / 8



jecs321 1 day ago

How do you get BB, RSI, and SMA on the option since those all require historical options prices, when the yahoo endpoint only gives you current data? Did you filter the tickers in finviz on day 0 and then watch them (collect data) for 5 days to calculate those indicators?



15



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dj_options 1 day ago

You have to customize the end point based on your epoch periods, strike, expiry, ticker.

<https://query1.finance.yahoo.com/v8/finance/chart/IVR220121C00003000?symbol=IVR220121C00003000&period1=1605796787&period2=1606228787&useYfid=true&interval=5m&includePrePost=false&lang=en-US®ion=US>



11



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jecs321 1 day ago

NIIICE! Thanks for the quick reply!



6



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[5 more replies](#)

Limited to last 60 days of data

<https://query1.finance.yahoo.com/v8/finance/chart/IVR220121C00003000?symbol=IVR220121C00003000&period1=1605796787&period2=1606228787&useYfid=true&interval=5m&includePrePost=false&lang=en-US®ion=US>

Above is period1=November 19, 2020 to period2=November 24, 2020

MSFT210219C00180000

2/18/2021 = 1613683317

1/18/2021 = 1611004905

1/1/2021 = 1609536453

12/18/2020 = 1608326853

Sample test:

<https://query1.finance.yahoo.com/v8/finance/chart/MSFT210219C00180000?symbol=MSFT210219C00180000&period1=1609536453&period2=1613683317&useYfid=true&interval=5m&includePrePost=false&lang=en-US®ion=US>



defisapiens 1 day ago

I don't understand how ideal buy/sell are calculated. Is there some formula?

↑ 3 ↓ Reply Give Award Share Report Save



dj_options 22 hours ago

That's the secret which I definitely won't share.

↑ 2 ↓ Reply Give Award Share Report Save



subatomic5 1 day ago

↑ 4 ↓ Reply Give Award Share Report Save



subatomic5 1 day ago

What's your average return per trade? Do you use probabilities/B-score to scale your trade size?

↑ 2 ↓ Reply Give Award Share Report Save



dj_options 1 day ago · edited 1 day ago

I play with fixed budget for now, let us say 10-20 calls or 700-800\$ per trade order.

↑ 2 ↓ Reply Give Award Share Report Save



spankminister 1 day ago

Silly question, but what are you using to print out the table? Is it all in a DB on the backend, or is it pretty printing a dictionary/object?

↑ 2 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

It's just a dictionary object with formatted printing in python, "%6s, %13.2f" etc. etc. There is no database. Why do I have to use database when Yahoo and finviz are storing the data for me :lol

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[2 more replies](#)



wisegreenpanda 1 day ago

This is written in python. Tickers are obtained using scrapy on Finviz. I use the Yahoo options endpoint to fetch the data.



dj_options 11 days ago

I have been using this since November and made around \$2,000 from just \$100. I will try to explain things here briefly. The whole motivation behind this was to spend less time finding good options to trade. I usually run this code manually, look at the top 3 choices, and place a buy order straight away under less than 1 minute and go back to work.

This is written in python. Tickers are obtained using scrapy on Finviz. I use the Yahoo options endpoint to fetch the data. The TA is performed on the daily data. B-score is a set of checks that I have in place, e.g., if RSI is less than 35 then it gets 1 B-score. Similarly, I have other checks on IV, Bollinger bands, etc., which worked well and are tested over time. You don't have to put in too many checks. Some simple ones just work great.

The ideal buy sell column is the price you want to get a call and sell it. This is derived again using all the TA factors. I have never seen a call rated 8/8 so far. Any score ≥ 6 will end up in profit with a very high success rate. I usually don't hold calls for more than 3-4 days. I don't have enough money to start this on calls like AAPL, TSLA, etc. but yes maybe in the future hopefully.

The ideal buy sell column is the price you want to get a call and sell it. This is derived again using all the TA factors.



stilloriginal 1 day ago

Are the sma, bollinngers, etc on the underlying or the derivative?

↑ 4 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

They are derived from the daily ohlc historical options data for the ticker, strike, and expiry obtained using Yahoo endpoint.

↑ 4 ↓ Reply Give Award Share Report Save



Pengurino 1 day ago

which endpoint is that? I've been looking for historical options data from yahoo's api for a while now

↑ 1 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

You can use Robinhood API. I have posted links for a git repo robin_stocks. Check out other threads.

↑ 3 ↓ Reply Give Award Share Report Save



Skygazerninja 1 day ago

What's a B-score?

↑ 3 ↓ Reply Give Award Share Report Save



Le_9k_Redditor 12 hours ago

I think it's buy-score. Just a score saying how good of an idea it is to buy

↑ 1 ↓ Reply Give Award Share Report Save



daynighttrader 1 day ago

Why do you increase B score for spread being high? Would that equate less liquidity?

↑ 9 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

Higher spread usually leads to higher chances of profit. This conclusion was obtained with trial and error. Again, there are several checks in B-score, some of them works on one day, some of the other works on another day. So far I have never seen 8/8 on any call.

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Idioteque85 1 day ago

Thanks. I have an Eikon One feed for that, very cool concept. I'm going to recreate it in excel using Eikon's plugins bc I'm a Python noob and give it a try trading. You could probably be well served owning a Russell 2000 put to reduce your delta near 0 and that would isolate this strategy nearly down to just it's alpha potential. Its essentially a short-term reversal strategy. Seems like the biggest risk is a big market sell off that tanks all your calls at once.

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dj_options 1 day ago

At this point, that just don't matter to me because all this is running on house money already. This is like an ATM spilling out money every few days.

↑ 1 ↓ Reply Give Award Share Report Save



Idioteque85 1 day ago

Gotcha, I get it...Its a bull market, it works...I'm just saying longer term, you probably don't want to run this strat in a bear market without some reduction to net exposure.

↑ 5 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

Sure, factors and strategies will change over time. Nothing is universal.

↑ 3 ↓ Reply Give Award Share Report Save



NoAttentionAtWrk 1 day ago

What's the reason you picked these 8 counters out of like millions out there

Very new and trying to learn

↑ 3 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

These are the very basic ones I guess which will get you started. Also, I don't need to know million indicators and over constraint the system to make a confused decision. Sometimes simple things are beautiful.

↑ 5 ↓ Reply Give Award Share Report Save



Le_9k_Redditor · 14 hours ago · edited 13 hours ago

I'm new to algo trading. Any reason you're looking at SMA instead of VWMA? Since you're comparing it to VWAP I'm wondering if it's deliberate that you're not accounting for volume on one side of the condition but you are on the other.

Edit: Also which settings are you using for your bollinger bands, RSI etc? And which period graph are you looking at, 1 minute candles?



2



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dj_options · 10 hours ago

Comparing SMA and VWAP works well on low volume calls and yes this was done on purpose.



0



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dj_options · 1 day ago

It's real-time and data changes depending on what ticker it ends up scanning on Finviz. I posted other links, check them out. 1 year out data is probably useless at this point. Also, it's at max 1-month previous data to get the TA trends. I don't go beyond that.



6



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Ryvn- · 1 day ago

Mad respect for even giving out the B-score calculations. Keep up the quality content



25



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dj_options · 1 day ago

B-score is good for long term calls at least for now, and items will probably change over time.



12



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dj_options · 1 day ago

Guys, this code does a lot more than what I have told so far. One example is detecting unusual options activity. A simple if condition like "if(volume>=1000)" also lists all the calls with unusual volume along with B-Scores. \m/



7



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DivineLawnmower 1 day ago

Considering all the data on your strategy that you've given out. There are far too many people calling it luck and being shit towards you. You made money, a decent amount from a small amount. Keep at it!

Hopefully the disclosure of your strategy doesn't kill it for you.

↑ 12 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

Yep. I ignore the noise. I only took the constructive feedback. Unless you code the strategy and scan it on hundreds of ticker and thousands of calls, it's not possible to do it manually. Also there are many technicalities that people will try to figure out once they start coding it. It's not as easy as it seems here and I stated only the key steps to get people started. Took me 5-6 months to code it, 1-2 months of improvement + paper testing, and since mid November I played with real money to make real profits.

↑ 5 ↓ Reply Give Award Share Report Save



Oregon_Oregano 1 day ago

at the very least we could deploy it as a lambda function (free tier) that gets triggered through a cron job every morning and emails/texts you the list so you don't run it manually.

↑ 11 ↓ Reply Give Award Share Report Save



dj_options 1 day ago

I run it on a raspberry pie and it sends me diqest emails every day. \m/

↑ 11 ↓ Reply Give Award Share Report Save



LongOnPanda 18 hours ago

Should not be spread the difference between ask and bid price?

↑ 2 ↓ Reply Give Award Share Report Save



dj_options 19 hours ago

Shhhh, that's historical spread.

↑ 2 ↓ Reply Give Award Share Report Save



LongOnPanda 19 hours ago · edited 19 hours ago

Okay. I wonder how you calculated it? I imagine by the maximum range of the filled prices in the considered period

↑ 3 ↓ Reply Give Award Share Report Save



dj_options 19 hours ago

You got it.

↑ 2 ↓ Reply Give Award Share Report Save



LongOnPanda 19 hours ago

That's clever since the differences between bid and ask don't give much information.
Thanks

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doodaid 1 day ago

Do you have any consideration in your code for pre-market gapping and/or earnings?

Just wondering if this would either encourage or discourage a 'buy' if the earnings call is poor and results in a fairly significant drop.

↑ 1 ↓ Reply Give Award Share Report Save



dj_options 1 day ago


I didn't study the ER effect on long term calls yet. Short term calls might get effected with ERs etc. but long calls hardly moves (I suppose) with local short term fluctuations. I will keep this as To-do may be in future.

Thanks for the feedback. One more parser to fetch ER calendar from StockTwits:

<https://stocktwits.com/earnings-calendar>








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OI is open interest

 Sonictrade 1 day ago








What's the win to loss ratio when you back tested it ? Do you filter out large spreads too?


One of the criteria from what I can see is OI, does that determine ATM leaps ?

 1   Reply  Give Award  Share  Report  Save








 dj_options 1 day ago


I use OI to decide what to buy when there is clash between B-Scores. It's more of a manual factor thing to decide for now. So far it's 100% win. I didn't lose a single trade since November.

 2   Reply  Give Award  Share  Report  Save








 Sonictrade 1 day ago


What's the usual time frame of your leaps ? 9months to 12 months ? Or straighten up jan 22

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 dj_options 1 day ago

Jan 22 and onwards for now. I will add 2023 once they are available to trade. No short term calls for now.








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 Sonictrade 1 day ago

I'd recommend looking into past trades and determine the industries, so you can get an idea if this was an industry rally or maybe find certain correlation in the market. There is often a gap between small, mid and large caps that needs to be closed. When large cap rally and stop, you sometimes see the SPX rallying. It's usually some mid cap and small cap catching up.








I think this could help tightening up the results.

Thank you for sharing your work

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 dj_options 22 hours ago

20+ trades in 1.5 months. All gains, no loss. The idea is not being greedy and get out if the price moves up a few cents.

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Maybe do a strategy that just watches consensus and buys as different sites focus on specific stocks



Novaa23 1 day ago

How do you decide which tickers to look at?

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dj_options 1 day ago

There is one scanner which scan finviz for tickers in different sectors. There are other scanners which scans stockbeeps, StockTwits, barchart etc. websites for a variety of stocks. There are multiple scanners which runs on a multiple processes without blocking. They all create a distinct list of a few hundred tickers to fetch options for TA and processing.

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Rofflemaow 7 hours ago

This is just current options data not historic, correct?

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dj_options 31 minutes ago

Both types are used current and historic.

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-----Second round of comments began 2/17/20
User Excelled products posted his code and created activity.









ExcelledProducts 3 days ago  2

Hey man reverse engineered all your alpha in 3 hours.

<https://pastebin.com/ZjuGntnh>

 6 

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CompeAnansi 3 days ago · edited 2 days ago

I'd be interested to see your screener and util modules. I am especially interested in your screener module because it seems to be doing a lot of work behind the scenes and might be more efficient than my own. I also rebuilt the method as DJ described it, but used a rather different (more complicated) code structure.

Since I'm making a request, I figured I should give something back via a review of the code you provided. Here are some issues I noticed that you may (or may not) want to adjust if you are planning to continue with this project:

1. VWAP is not supposed to be calculated on daily data. This means you also need to pull 1min or 2min data from Yahoo (depending on your range) for each stock to calculate it properly.
2. You don't seem to have the right settings for some of the TA indicators (e.g., RSI, SMA) based on what DJ has posted here.
3. BBand Lower is supposed to be compared to the last filled price in the B-Score calc, not the prior close price.
4. You're definitely not supposed to be summing the Volume numbers across several days. If you want to factor in more than one day I guess you could average, but I am pretty sure DJ is just taking the volume from either the prior day or the current day (probably the latter).
5. The spread between his ideal buy/sell was on average 68% of the ask-bid spread from the data I examined, so using 60% for the value (as you do in your function) is a bit off. There is also contract-to-contract variation in how the spread is allocated that I have not been able to model, but this variation may not matter much given its small effect size.
6. For calculating historical spread, we don't know the range he uses to calculate it. I settled on 3 days, but your guess of 5 is probably just as good.
7. For the implied volatility, DJ is pretty clearly using Robinhood's IV because Yahoo's IV is way off compared to the numbers he has shown in screenshots. If you are going to use Yahoo's IV, you probably do not want to use 40 as your test in the B-Score given the differences.
8. Similarly, you'll probably want to get current contract data (e.g., bid, ask, last, etc.) from your broker, rather than Yahoo since that is who you will be buying from.
9. Finally, you do not seem to be filtering out options contracts with incomplete data (e.g., having no values for Bid, Ask, or IV), which needs to be done for the tests to apply properly.

<https://pastebin.com/ZjuGntnh>

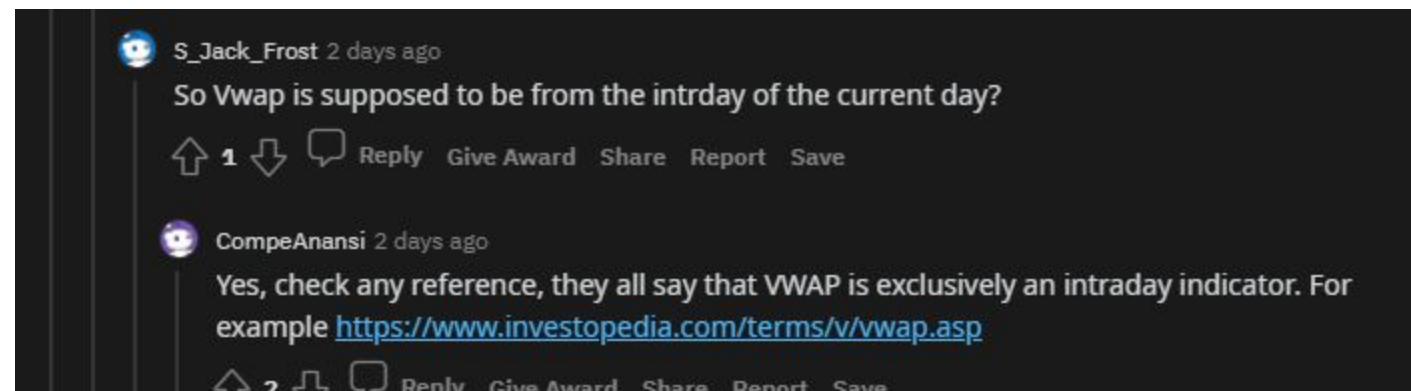
Text of above so it is searchable

[CompeAnansi](#)
3 days ago edited 2 days ago

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dj_options 2 days ago

Not to discourage you, but what you posted is what I had in July 2020. There are a lot of things that you need to work on.

1. Your ideal buy-sell is very simple for now. You need to work for a better approximation that captures the maximum probability of profits. This is the secret sauce which I won't tell here and has not been discussed so far. Getting these ideal ranges corresponds to roughly 15% of my whole work, and that includes testing and implementing different strategies to get it.
2. You have to test TA parameters for RSI, SMA, VWAP. You are using 5, 5, etc. but I don't use 5. I use 10, 14, etc. which worked well for me. Read this discussion as I have mentioned what exactly I am using for what purpose.
3. I am sure that if we run our versions on the same tickers with the same strikes and expiries, our tables won't match at all. I have posted many screenshots, try to reproduce them if you can. This will serve as a testing and benchmarking for you.
4. I won't bet real money with what you have so far. So do a lot of testing and paper trading during market hours to get more confidence in your code.
5. There are plenty of other things that I have in place: multiple scanners (look at barchart, stockbeep, liomaster, swingtradingbot, I do have premium fool so that's also baked in, finscreener, I have 8 different sets of finviz filters targeting different things), plotters, parallel processing, level 2 data to get current support and resistance, caching and hybrid modes, candlestick pattern recognition, fake user agents with batch fetch, SEC parser to exclude tickers with insider selling, notification/logs, swing signals, and tones of other stuff that I can't even recall. I don't see any of that in your code and it's not your fault because it has not been discussed before. And of course, I won't discuss those things here. A lot happens inside and it is not just table printing. My most well-put thoughts are buried in the code and only auxiliary things are discussed here in these threads.

As I said earlier, a great heads-up for anyone looking to start from ground zero. You have done a great job to put all things together in few hours so that people can have a head start. Thanks for sharing your code with others too.

Please don't take this as a discouragement. I hope you have success in your project, do test different things, and build something powerful over time that can generate unrealistic profits. I guarantee you, it definitely can. Everything is right in front of your eyes. Also, we are not in any competition and there are no dead-lines :)



3



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CompeAnansi 2 days ago · edited 2 days ago

So I am curious about your comment that those of us in the thread would have completely different tables from you. Conceptually it seems like there are three steps to what you are doing with your code:

1. Gather a validated list of tickers
2. Perform TA on those tickers
3. Score them according to those values

The majority of the previously unmentioned aspects of your code seem to apply to step 1 or are best practices/QoL features. The various scanners all increase the number and variety of tickers, the insider trading data rules out tickers with bad signs. Those impact which tickers get processed, but not the values generated on them.

Many of the features are just smart choices (batch processing, fake headers) or quality of life features (notifications, caching), which don't impact the generated values.

All that is left is the candlestick pattern recognition, swing signals, and support/resistance data. Those could be impacting step 2 where you actually generate your numbers, but I am not sure how you are using them (beyond impacting the ideal buy/sell).

If I am right in everything I have said so far, my question is: If we both processed the same contract symbol (e.g., IVR220121C00004000) would we get the same results? Assuming, of course, that I actually closely followed everything you said here and didn't make any of the obvious mistakes that the code on Pastebin is making.

It seems to me that the main points of divergence would be on 'Ideal Buy/Sell' (because I have yet to be able to model the exact parameters you are using) and 'Spread' (because I don't know the time range you're using to pick the local highs and lows).

But everything else should be the same, even given all the previously unmentioned features you just posted about, right? We'd have the same values for Bid, Filled, Ask, Volume, OI, the BBands, RSI, VWAP, SMA, Change, and IV (assuming we were using the same data sources - Yahoo + Robinhood - and the TA settings discussed on this thread). Or do some of the unmentioned code differences generate differences in some of these values as well?

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di-antenn 2 days ago · edited 1 day ago



dj_options

4 days ago · edited 4 days ago

BB(S/R) will be different because it also considers support and resistance from level 2. S/R stands for support and resistance.

Assuming we have same candlesticks input (range and interval) and TA parameters for IVR call then OI, Vol, RSI, VWAP, today's gain, SMA, IV will match because they are straight forward. BB(S/R), Spread, Ideal buy sell probably won't match. If BB(S/R) is different then the derived B score will not match.

Smart choices which you mentioned are performance related and one will observe that they are necessary once your list of tickers grow large. Otherwise it will take forever for just 1 run not to mention rate limits with your brokerage and api endpoints. Imagine scanning tickers like AAPL and TSLA for all strikes and expiries. But yes they don't effect the numbers in the table. The other guy asked for 95% so it is included in that 😬



2



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S_Jack_Frost 3 days ago

How long does it take for your script to run, and how many stocks do you go through? With my script just running through 100 stocks (getting robinhood data, yahoo daily data going back to a month, and yahoo intraday data) I find that it is taking up to 5 minutes.



1



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dj_options

3 days ago

For average 250 tickers with 2022 + 2023 calls, takes around 30 seconds on 4 processes. Most of the time is taken in fetching Yahoo and RH data.



1



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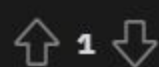
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XIV96 6 days ago

This looks awesome! One question I have, and sorry if you already answered it, is how is the VWAP calculated? Is it an average VWAP for 5 days, or just the VWAP of the previous day intraday? I tried looking for an answer to this question already but I couldn't find one



1



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dj_options 5 days ago

Use this one: <https://technical-analysis-library-in-python.readthedocs.io/en/latest/ta.html>

No need to write your own formula for VWAP.



2



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<https://technical-analysis-library-in-python.readthedocs.io/en/latest/ta.html>

Mike_in_the_middle 8 days ago

I know I'm late, but really excited to see this! I am working on my own algo and had a few questions about your experience:

- how much Backtesting do you do before moving to the next step? I know I can never be 100% sure about my algo until it's fully beta testing, but it always makes me wonder if I am worrying too much about historical data.
- do you continually spot check other values for your parameters? For example, other periods for RSI other than 14, or other buy/sell signal levels? Or are these pretty well established and not going to change?
- how much manual testing (i.e. looking at charts) vs automated testing do you perform? I know you mentioned manually executing trades, so I imagine annual testing mostly?



1



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dj_options 8 days ago · edited 8 days ago

I don't do back testing anymore. This is live since November on real money and I don't change any parameters either. It works pretty much very well on all sorts of conditions. In last two-three months, I have seen pumps and dumps, dow dropping, red days, green days, rallies, and this thing is resilient to all those conditions. I don't check charts anymore and I blindly trust whatever ends up with score ≥ 6 .



Manual trade execution for now to avoid day trading. Buy today and sell tomorrow works.

Those who are trying to replicate this, I will suggest to do real time testing for 2-3 months instead of back testing, and fine tune your strategy in real time. This will give you more confidence in your approach since you don't know the future outcome in real time. With back test, you already know the past and one can get biased in the selection of parameters during fine tuning.

I did real time testing for 5-6 months instead of back testing. And there is a lot more which is not mentioned here in this discussion. One example is to remove tickers after the scanning which had recent insider selling. All the framework mentioned here is just a base framework which will

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CompeAnansi 8 days ago · edited 8 days ago

[/u/dj_options](#) Now that I have a running version of the algo (sans ideal buy/sell since I have yet to approximate that) and have started paper trading it, I find I have a few questions about your strategies for placing orders based on this algo.

1. How often do you have limit orders placed according to your ideal buy that go unfilled? Do you ever push your order a couple of cents higher to increase the fill chance, even if this caps your earnings? Or do you just consider that a missed opportunity, rescan, and try placing a new limit order with the current highest-rated contract?
2. Same question, but for selling the next day. How often you have your sell orders go unfilled? Do you ever lower our sell price by a couple of cents to increase the fill chance? In this case, you can't just move on to another contract, since you already own it, so you gotta sell it at some point.
3. Do you have a preferred time of day to run your analysis and place your orders? Have you found a difference between doing it at market open, mid day, and near market close? Since the volume number resets daily, I assume you are generally running your algo somewhat later in the day, otherwise, very few things would be over 100 volume.



2



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dj_options 8 days ago

1. Once order is placed, it keeps checking its state whether confirmed or filled. If not filled for a preset interval, it's cancelled. Interval is 10 minutes. Plenty of other options to chose from so I don't bump up the price. You can have your strategy here depending on your preference e.g. if bid ask spread is large enough to accommodate your profit, you can bump up the bid price.
2. I sell next day for now because I need to avoid day trading as I play with limited capital. After the buy, code quits for now.
3. It's not time dependent. The indicators don't change much no matter when you run it. I have a pi board setup up running a cron job. There is always volume even at 9:31 am. Thousands of calls to choose from anytime during trading hours.



CompeAnansi 11 days ago

I am finding that after gathering all the data on the contracts that many are missing key data. Some have no last_trade_price, others have no high or low, and many don't have enough historical data points (even with a 90d range) to produce values for all the TA indicators. I am currently just filtering out all these contracts with incomplete data.

[/u/dj_options](#) are you also just filtering out these contracts as nonviable for the strategy? Or are you enriching the data beyond Robinhood market data + Yahoo daily ohlcv? Given the number of contracts printed on your original screenshot (58), I assume you're just filtering them out, but I wanted to check to see if you had any additional insight.



1



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dj_options

11 days ago · edited 11 days ago

I ignore the entire option if there is even one missing field that is necessary for computations. Robinhood weekly data at 10 minutes and yahoo daily data for one month are reliable in most scenarios. I don't do any type of data repairing. There are always plenty of calls available to choose from and ignoring a few doesn't make any difference. Hope that helps.



2



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CompeAnansi 10 days ago

I am getting odd results from the Robinhood historical market data endpoint (url='/marketdata/options/historicals/' or the get_option_historicals() function if using robin_stocks). No matter the ticker, strike, or interval I pick I always get 0 for volume in my API calls (I even checked AAPL leaps). But no matter what settings I try, I have never seen a non-0 result. I am not sure whether this bug is on my end in how I am calling the API or on Robinhood's end. I think it is a Robinhood bug because all the other data is there.

To be clear, I get volume numbers just fine for the non-historical market data endpoint (url='/marketdata/options/' or the get_option_market_data() function). It is just the historical fine-grained data that has no values for volume. Have you experienced this problem with the historical endpoint on the Robinhood API?

The problem with having no volume data from the Robinhood historical endpoint is that I cannot calculate VWAP based on it. I'm not sure what else I could do to calculate VWAP in this case, other than to calculate it based on the daily data from Yahoo. But VWAP is supposed to be applied only to fine-grained intraday data not daily data. And I cannot just ignore each option missing the volume data from Robinhood because that means I have to ignore every possible option contract.

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 **dj_options** 10 days ago

Yes. Robinhood doesn't provide volume on historical. Use Yahoo for that purpose and to get VWAP. I am so glad that people are trying this out and asking questions. 😊

↑ 3 ↓  Reply Give Award Share Report Save

Use Yahoo for historical instead of Robinhood



BigGayBull 12 days ago


Thanks a ton for sharing this! It has given me some great ideas to start looking into. Does Robinhood not like people using their API? I had heard they are pretty aggressive on people doing arbitrage trading on their system. Thanks again!

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dj_options 12 days ago

Just don't bombard their servers with thousands of request every minute. Do batch requests with delays and all will be fine. This is a trade off between free data and performance. Everything here in code is brokerage platform independent and switching inputs and outputs to other brokerages is a piece of cake. Good luck.

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