### Jason Hitchings (00:10):

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### (<u>01:02</u>):

My name is Jason Hitchings. I'm the CTO of Capital Market Labs. I have known Ofir since about 2007 or oh eight. We started, I was the first employee of a company called Live Vol and he came on to head some of the quantitative research and we became friends there and then our careers kind of went different directions, and then he created Capital Market Labs years ago. It was about a year in, and then I joined Capital Market Labs and we kind of built everything that we have today. I wrote all of the code for trade machine on the front end and the backend. I've been in the options market for approaching 20 years now, and yeah, I've traded throughout that time. Additionally, I've gone very deep on options analytics and building custom models. I was trying to build a live figure out models that were very accurate for predicting implied volatility and all the other Greeks, but to do it 200,000 times a second on a moderate size computer. So it was trying to getting as much out of the models as they possibly could. So I've been at this for a minute now. So today we're going to do a deep dive On the today tab. We're going to look at what everything is there, what are the links do, what does that little Al signal thing mean, which is a relatively new addition to the today tab.

#### (<u>02:36</u>):

How do you decide which strategies you want to trade and what are the different strategies? We're going to do breakdowns and deep dives on each one of the individual strategies, but I'll give you some guidance on that kind of stuff. And then how do you know if something triggers on the today tab? Well, maybe it was active in that moment, but how do you know if it's still active? It's a source of a lot of questions and we're going to get into it. And then after we do that in about 15 minutes or so, then we'll just kind of turn it over to a general q and a, which could last two minutes or 20 minutes depending on people's appetite, and then we'll call it a night.

## (<u>03:15</u>):

So this is the today tab and just a real quick breakdown, this is the first thing you see when you log into trade machine. These are the tabs at the top to navigate in the application. There's a little filter at the top and this tells you whether the results that you're seeing here are for all possible tickers where you can filter them down to just the DOW 30, just the NASDAQ 100 or the largest 500 by market cap. Each one of these individual tiles is a specific strategy and within the tile you have the ticker, you have the return that this specific strategy with this specific ticker has generated over the last three years. Generally this is a strategy over the last three years. It says the number of wins and the number of losses, and then when it triggered, and pretty recently, maybe a month ago, instead of only showing the triggers that happened on this very day, we started including triggers that happened recently. One, sometimes they're still very relevant and also it just gives you a context of what's been going on. It's nice on the weekend when you log in, not to have a blank screen, but it just gives you a sense of how often things are triggering and what's triggered. And sometimes a 14 day pre earnings call strategy, if it

triggered yesterday, you might decide that that's still close enough to the window that you care about and you might go ahead and take the trade. So there's some kind of discretion at that level.

# (<u>04:56</u>):

So each one of these items here represents an individual back test, but when someone's just starting off, it's quite overwhelming to figure out, okay, there's all of these different strategies. They all have different tickers to click on this thing's called a fade, the dip that's called a buy the dip macd momentum. That's fine. So I see a ticker here, I see jack in the box or GDS, I see all these different tickers, but what am I supposed to do with it? So a great way to start understanding what's happening is just to go ahead and click one of the individual links here and then to dive in to see what the backtest is. Each one of these backtest has a link associated with it that can be shared, and that link carries all of the information that happened when that backtest was created. So any earnings rules, any technical conditions, all of that kind of stuff is built into that link.

## (<u>06:08</u>):

So when you click a link, for instance with this jack in the box by the dip trade, and if you're brand new, you don't know what by the dip is. I mean you've heard the term by the dip, but you don't know what our version of it is. So when you click the link, it opens up this backtest tab. Backtest tab is a simulator that is simulating what is happening in the market over time, but it's using real data to do it. So it's not a model like you're modeling the weather and you're kind of guessing what's going to happen in the future. It's actually saying, had you taken these trades, this is exactly the kind of performance that you would expect to pretty high degree of fidelity. So just like if you can look at a stock chart and say, Hey, if I bought Microsoft back 15 years ago and then I sold it today, that's a pretty easy simulation to do.

# (<u>07:02</u>):

You just look at the price 15 years ago. You look at today and take the difference if there's dividends, you collect the dividends along the way. That's essentially what this is doing. It's just doing it with options and it's doing it with a lot of technical and earnings rules and that kind of thing in order to give you a lot more ways to optimize your trading than just to buy and hold an underlying stock for a long period of time. So when we see this page and we're trying to understand what is this strategy, anytime you have a share link and you click it and you're trying to understand what's going on, you have this back test result tile in the middle, and this is telling you what the actual trade is and what the results of that have been. Historically, it's at this start date and at this end date. So when we ran a simulator from 2020 in December until recently in December, the results were that we had four wins and two losses and that the strategy made a 74% return.

## (<u>08:03</u>):

But what is it exactly? It's like, well, we can see that it says buy a call. It says a 40 delta call delta. You might vaguely know that delta has to do with how in the money or out of the money something is, but it can all be a little overwhelming at first, especially for relatively new options traders. So let's dive into the different pieces of this a little bit so we can see that from that back test tab, this information carried over 74% return, four wins two losses. That will generally be the case. Sometimes there'll be slight differences, might be four in one or something like that, depending on if there's a slight change in the price before the end of the day on an option or something like that when it ran. But generally it'll be very close.

# (<u>08:50</u>):

So let's dive into actually when exactly this triggered. It said it happened four times. This is options that are expiring every 30 days but only happened six times in three years. So what exactly when did it trigger exactly? So these are the technical conditions and you can click technical open on the back test

tab in order to see the actual settings if you want to change them or see it that way. But what does this stuff mean? So it says the stock right now is greater than the 200 day moving average, but yesterday it was less than a 200 day moving average. That means that it crossed up through the 200 day moving average. It says that the stock is greater than the 10 day exponential moving average and that the 20 day RSI is below 70, so it's not overbought according to the RSI.

#### (<u>09:46</u>):

Now remember when you want to actually look at these for today, you want to update the end date. Those share links get generated over time as we're scanning the market, but update to the most recent day if you want to drill down and see if it triggered today and really look at the data. So I'm updating that to the current day. Then let's look at these things. So you can zoom in on and I'll open up. So we're looking at the buy the dip for Jack in the books here. So at the very bottom here, there's this scroller that's pretty hidden, but if you scroll all the way across, now you have kind of a zoomed in version of this actual strategy and see it on this particular one I haven't updated, so I'm going to update it to the current day because otherwise it would look like it hadn't triggered yet. So then we zoom in and I can really dive deep into this data and I took a screenshot to make it a little easier to look at this, so I'll go back to the screenshot, but that's what I did to get this real close and look.

### (<u>11:00</u>):

So it's saying that the stock crossed above the 200 day moving average. So yesterday, the red candles, the bottom is where it closed. It was a down day and the blue is the 200 day moving average. That blue line is the 200 day moving average. When you're zoomed in, it's not moving very much. So it had to yesterday, it was below the red, and today this black bar it crossed up through and the black bar is, it's the top of the bar that tells you the closing price. So it went from this from down there to up here, so it did cross. So that's still good in active. So look at the next condition that the stock is above the 10 day exponential moving average. All the exponential moving average is, it's just something that moves faster. It weights the current day's data more than the older data. It doesn't evenly count the value of all those days. Moving average is just looking at the average price over a period of time. Exponential means it counts the most recent days a little bit more. So the green line, as you can tell with this little square, the green line is the 10 day exponential moving average, and we can see that the stock is above because the black bar is up here, it's above the green line, so that condition is also true. Finally, we scroll down to this RSI. I'm going to show you here.

## (<u>12:29</u>):

This is the RSI. You can see I can kind of pan left and right here, and if I hover over this on the left side, you can see a 62.82 and also in this little tool tip, you can see it. So that says it's below 70, and so that means that all of these conditions are still active. So we know that the technical conditions held true, but is that everything for a strategy that determines whether this is ready to purchase or not? Almost there's generally, we look at earnings a lot. We decide whether to actively choose to trade an earnings event or to not trade the earnings event. We rarely just sort of stumble into earnings and just hold a strategy through earnings with being oblivious to earnings. That is a choice. There is a ignore earnings or nothing special in the earnings handling, but typically we say we're intentional about our earnings and if it's not an earnings strategy, and if you're created most of the strategies inside of trade machine, generally it's never trade earnings. What that means is if you're within two days of an earnings event, then you need to get out of the position. It means close if you're two days in front of it, and then you can open it back up if the technical conditions are still true two days after. But generally it would tell you if you're within two days of earnings, then this strategy is not active if it's a never trade earnings.

#### (14:01):

So right inside of the trade machine, there's a lot of information at the top, but we actually use a really good quality vendor to come up with the projections for the next earnings events, and when they become verified, then they're putting money behind the fact that it's a guaranteed earnings event, but earnings event anytime soon. So that condition is also met because earnings aren't for another seven weeks or so. So in that case, all of the conditions for this trade are currently being met. So now we know that this strategy is ready to trade, but what do I do exactly? What am I supposed to buy? I'm not just going to buy the stock. What am I going to buy? So looking back at this little earnings tile says it's jack in the box and to buy the 40 delta calls and it says days expiration is 30 days to expiration.

## (<u>14:57</u>):

So let's use this to look at a real world example because what it's saying is you want a delta as close to 40 delta as you can and you want an expiration as close to 30 days as you can, but generally these will not be exact. It will not be exactly 30 days. It will not be exactly 40 delta. So this is a good example of a trade. So what I'm going to do is I'm going to click the show options button in the very top and it's going to pop open this options chain. That's this button right here. When you click it, it opens this options chain, and then you can dive into it. You can actually filter by days expiration. You see that we have kind of not a great choice. It's either 15 days from expiration or it's 43 days from expiration.

## (<u>15:45</u>):

That's a little bit of a tough. So the 43 is slightly closer. I can filter on that, and then when I look over here at the delta, I'm looking for a 40 delta, which would be slightly out of the money. Jack in the box is trading at 83 85. So anything above 83 85 would be slightly out of the money and have a delta above 50. One definition of delta is moneys, and so there's not a lot of strikes here though. They're \$5 apart the strikes, and so I now have a choice if I want to trade the 50 delta or the 30 delta. There's no specific, oh yeah, sorry, I think I might've misspoke the 83 at 85 right now.

## (<u>16:30</u>):

So in this particular example, I looked at the 90 as the 30 delta, and sometimes that stock price can move after hours. So the delta might drift a little bit apart from the stock price if it moved after hours a little bit, which is also a possibility. So now I know roughly that I'm going to buy either the 85 or the 90 call for this in the February 16, 20, 24 options. So then I buy the thing and then how long do I hold or when do I get out? So let's look at that next as the next piece of this puzzle. So on the left hand side, there's these earnings handling rules and that will tell you if you have a customs earning, like you want to sell it before an earnings event. If it's an ever trade earnings and you'd sell it two days before the next earnings, there's no technical closes.

#### (<u>17:32</u>):

You could say, Hey, if this crosses back down under the 200 day moving average and we close it, but this doesn't have any technical closes set, but it does have a 50% stop and a 50% loss set. So if the position goes up or down 50%, then according to this strategy, we would exit. If none of those things happen, then we would just hold it to expiration. We might take a 20% win or 20% loss. Obviously we're hoping for more wins than losses. So let's actually take it one step deeper and say, okay, 50% gain or loss of what does that really practically mean? So this shows the midpoint price, at least at the end of the day, and this is showing a buck 62 and change for that option. If we did it five times, then that would mean that we outlaid 815 bucks.

#### (<u>18:32</u>):

This is just a simple naked call, and so there's no more complicated picture of risk when you're just owning the options like this. So 50% would mean if your p and I goes up or down 407 bucks, then it would be time to exit if you wanted to hold to this strategy the way it's written. Also, the backtester

tests using data at the end of the day or just a few minutes before the end of the day. So if you really want to be as true as possible to how this is simulating the market, then you'd wait towards the end of the day and see if all these conditions are still true.

# (<u>19:12</u>):

If you don't want to set a stop and a limit, and if you're at your job and you don't want to be staring at the screen all day, you might ask, well, do I really have to set the stop and limit or is it a good enough trade on its own? It's a good question. Let's try. Let's say if we set the gains and losses, the stop loss stuff to zero, then it won't apply it. And what happens with this trade if we set it to nothing? Ouch, we go from a nice solid winner, I think it was four and two to zero wins and four losses. So I think there's a great and perfectly valid thing to do. You can check deltas, you can check stops and limits. You can definitely do your own testing, make it fit your own ideas and the way you like to trade. Maybe you want to set a bigger stops and limits smaller, but using the tool you can say, Hey, is that a good idea or not? Should I let the trade go? Should I let it ride? Or do I need to exit this thing and take a profit or take a loss early on?

# (<u>20:19</u>):

And in this case, it's telling you a so single, you should probably use some stops in limits. You don't want to just let this thing go to expiration without having some of that in there. Okay, so now you've figured out when this thing triggers, you figured out what to trade, how to get into it, when you should get out of it according to the strategy that we've created. What if you want to dive in and get deeper on the philosophy of this trade? What's really behind it and why every single one of these trades has a little question mark. It's kind of faint and hard to see, but if you click it, it's going to pop open more information about this specific trade. Most of them have a really high quality video that goes deeply into when it triggers what's happening in the market, what that dip looks like, how we measure the dip and looks at some historical performance and why it's done well. So we definitely encourage you to dive in and look at each one of these, and we're also going to be having additional help sessions pretty much on every strategy on the today tab. I think we're going to kind of go through piece by piece.

## (<u>21:31</u>):

Some do have passwords, so if it has a password, please do make a note of that. You'll have to enter the password. Some are too proprietary. Okay, so something else that we added recently is this AI signal, this little AI with a flag. So what does that mean? If you see this little AI star and you might see the strategy without it and the strategy with it in this case, the results are the same, which just means that the signal was the AI signal was also triggering every single time. Many times you'll see there's a difference where you have fewer trades with the ai, but that the results are better.

## (<u>22:18</u>):

So what that little AI means is using machine learning, we've come up with our own proprietary version of what SKU and kurtosis are, which essentially means skew is when the stock moves, it tends to move to the upside or tends to move to the downside more often. And the kurtosis is how often it makes those jumps. We are calling them SKU and kurtosis, but they're actually a little more involved than that, and that kind gets into some of the heart of what makes it kind of special. The secret sauce in there, we have put at the top of the screen our proprietary versions of skew and ketosis that you can just see and make sure that they're still active and valid in all of that. So those are there for your ability to see them, but just know if you're just trying to look at skewer ketosis in the most basic way, it's not going to be quite the same way that we do it. We have found excellent, truly excellent results from these trades when using the skew and kurtosis data. I personally, and again, I can't make any recommendations to anyone, but I personally am trying to take as many of the today tab skew and kurtosis trades the AI trades as I can because that's just really performing extremely well right now. So I also, I'm a software engineer. I have a very busy day, but I set alerts on the today tab and try to take as many of those traces as I can.

## (<u>23:47</u>):

So a question that comes up is, let's see. So I only see this macd momentum. There's only three tickers here. Does that mean when you set the technical conditions, there's only three stocks in the entire market today that met those technical conditions? That seems unlikely that's not the case. We put a bunch of additional filters on these to make sure that the strategy has performed very well, not only across the board, but in this specific stock. So we test different timeframes. As an example, I said the win rate in the one in three years has to be greater than 50%. We need a certain amount of return, so we want to see at least a 15 20% ROI. We also test a bunch of other timeframes, so for each strategy, we've kind of tweaked and customized for that particular ticker. What makes this successful? Many times there could be five different criteria.

# (<u>24:52</u>):

There's five year back test, there's 10 year back test, so there's a lot of different things that goes into this. We make sure that there's a minimum number of trades because if only on a five year back test, if it only has one trade, yeah, that's a hundred percent winning percentage, but we don't consider that enough of a track record that we would feel comfortable saying, yeah, this is something that you might want to think about trading. So there's a bunch of criteria that go into it, and we are filtering on a select few that seem the most valid and most interesting. From a backtesting perspective, you might say, well, okay, so you have set a bunch of criteria, but I like doing the macd momentum trade. I clicked here and I watched the video, and I think it's a great trade, and I think that I'm more interested in just what the results of the last five years are like, because I don't think the last six months or year is going to be what the next three or six months is going to be like, what if I want to do some version of my own?

## (<u>25:52</u>):

Wonderful. Really, the backtest, the today tab is really just kind of an entree into what this tool can do, and so let's just dive in and do that.

# (<u>26:12</u>):

So we're looking at this Mac D trade, I'm going to click it and that's going to pull up a custom strategy. This is one of the more advanced ones that just says that it couldn't open on a certain day. The more legs and the more, if you have three legged strategies, et cetera, then sometimes when it's looking for a certain delta at a certain timeframe, et cetera, it just can't find it. So it's just letting you know, okay, so you see this funny name. It says it's a 50 20 diagonal. Maybe CS is something that you're familiar with that terminology, maybe it's not. So I want to just take one second to show you on the, if it's not one of these strategies that's prebuilt here, you can click edit and dive in to see exactly what the strategy is. And so this is showing you it's a custom strategy that we've created and it's doing a diagonal call, spread a 50 delta at the money that's 60 days out, and then selling one 20 days, 20 delta that's 30 days out.

## (<u>27:21</u>):

So something that's going to expire more near term, got to gain it back, but it's going to keep rolling this as often as it comes true. So that's the strategy from the back test link. But what if you're interested in five years and what if you're not just interested in G Ds, but what if you want to test the entire NASDAQ 100? Well, you can test all kinds of different sectors and industries and ETFs here. You can create your own portfolios. You can do new baskets of your own favorite stocks. You might be a subscriber to CML Pro. You might just want to enter top pick stocks in here so you can do anything that you want to, and

you can see that this is running relatively quickly, and that's because I'm a platinum user, which means I've just paid for a year of my service upfront.

# (<u>28:16</u>):

It lets us buy servers a year at a time on Amazon, which gives us a nice discount so we can kind of give more server more speed to users that are able to do that. We also give you a little break little price break as well because it just kind of helps us. So it's going to go through and test the entire NASDAQ 100 and it's doing just a few a second. I have the results in another screen, but it just completed and now these are all of the results over their five-year timeframe, and if you want to say, look, I want to do my own criteria. First of all, you could go in here and you could set stops and limits or you could put technical closes. You can modify and adjust this to your liking. You could edit it and you could change it to a 30 delta call spread or anything else you want to do.

# (29:04):

Once you've done that, you can start searching by the biggest returns. That's a nice return, seven 52%. You could look at the average trade return, so you can get in here and start customer ads it, and then you can set your own alerts just by going down and clicking these results. Anytime you click on an individual result, you can dive down and see every single trade, so you can really go deep. You can download it, you can copy it and just analyze it as deeply as you want to really understand the strategy thoroughly. But after you've selected whichever strategies that you're most interested in, you can click add alert, and it's going to create this share link, and that share link is going to be the strategies that you just selected. Here's that QA 50 20 call spread, and so that's going to get alerts on those strategies delivered directly to your email or to your phone number so you can really own it and start to customize it yourself.

## (<u>30:31</u>):

Okay, well, what if you're not quite ready for that? That might be something that you kind of get into over time, but at first you're just like, Hey, I picked one strategy. I picked buy the dip. I get it. I'm buying a call. I understand it. I watched the video. I understand when it happens. It seems like a good strategy. I just want to know when there's new ones of these. I can't just be staring at my computer all day. You come up here, you click set today tab alerts, and you can do exactly that. You can say, Hey, I just want to do buy the dip, and I only want to do it if it's a pretty large company, one of the largest 500 stocks by market cap, and I want you to email me throughout the day. I have time during my day to check one or two strategies that you send, and I'll pull it up on my brokerage account and I'll see if I want to trade it or not.

## (<u>31:27</u>):

You click save and there you go. Now you'll get emails for those specific strategy sent to your inbox. Then yeah, you can click on it and have a look. You can see if there's liquidity warnings on it. That can happen. It can give you liquidity alerts if that's the case, or you can look at the options montage and say, Hey, this is super wide. I might be able to get in, but I might have a hard time getting out. I don't want to mess with it. Or you can say, this thing looks great, I want to buy it. It will also tell you if you subscribe to one of these things, it will specifically say in the today tab alert email that you get if it's an AI trade, and so if you only want to trade the AI trades, you just go ahead and subscribe to all of them and then just look in your email.

# (<u>32:09</u>):

If it says ai, those are the ones and the future, we might have an AI filter, but we haven't added that yet. Okay, just a couple more little things to notice underneath this, we have this kind of stock notable technical breakouts. This is pretty similar. It's just stocks that have triggered based off of holding a stock for 22 days and then closing at 22 days is basically the average number of trading days in a month. That's why we ended up with 22 days. Same basic concept, when you click one of these, it opens a stock back test, and if you ever want to see the conditions, you can just click this and open it and it'll show you the exact conditions that make that true.

# (<u>32:51</u>):

Finally, down here, there's a little earnings calendar, and we're not in earning season right now, but this is pretty helpful to see what stocks are coming up if there's things that you want to trade and earnings. You can also set your own alerts for earnings and things coming up, and something I like to do when setting alerts. If I'm going to, let's say if I have an earnings trade, I'm going to hold for 14 days or something, I go into the calendar and I set an alert to close a trade, so I might just say, if I know when the next earnings is, I could say for a certain stock and say, on a calendar day, either you set before earnings or if you just want to hold something for a week and sell it, I just set this and say Close apple, or whatever the thing is, I can add an alert and just send me a little reminder to close it on that day. And heck, you can send yourself text alerts for things in your private life. You get unlimited alerts in the alerts thing. So yeah, if you just have to pick up your cleaning from the dry cleaner, feel free to set a calendar alert in there. It's a pretty handy little tool.

# (<u>33:51</u>):

So that's the today tab Alerts. You can kind of set as many as you want.