

IBKRWEBINARS.COM



April 12, 2022

**TOGGLE AI**

# The Future of Crypto Currency Trading

---

**Jan Szilagyi**

TOGGLE AI

Exchange and Industry Sponsored Webinars are presented by unaffiliated third parties. Interactive Brokers LLC is not responsible for the content of these presentations. You should review the contents of each presentation and make your own judgment as to whether the content is appropriate for you.

Interactive Brokers LLC does not provide recommendations or advice. This presentation is not an advertisement or solicitation for new customers. It is intended only as an educational presentation.



## Disclosure:

Trading in digital assets, including cryptocurrencies, is especially risky and is only for individuals with a high-risk tolerance and the financial ability to sustain losses. Eligibility to trade in digital asset products may vary based on jurisdiction. For more information, please see [www.ibkr.com/crypto](http://www.ibkr.com/crypto).

Options involve risk and are not suitable for all investors. For information on the uses and risks of options, you can obtain a copy of the Options Clearing Corporation risk disclosure document titled [Characteristics and Risks of Standardized Options](#) by calling (312) 542-6901.

Futures are not suitable for all investors. The amount you may lose may be greater than your initial investment. Before trading futures, please read the [CFTC Risk Disclosure](#). For a copy visit [interactivebrokers.com](http://interactivebrokers.com).

There is a substantial risk of loss in foreign exchange trading. The settlement date of foreign exchange trades can vary due to time zone differences and bank holidays. When trading across foreign exchange markets, this may necessitate borrowing funds to settle foreign exchange trades. The interest rate on borrowed funds must be considered when computing the cost of trades across multiple markets.

The Order types available through Interactive Brokers LLC's Trader Workstation are designed to help you limit your loss and/or lock in a profit. Market conditions and other factors may affect execution. In general, orders guarantee a fill or guarantee a price, but not both. In extreme market conditions, an order may either be executed at a different price than anticipated or may not be filled in the marketplace.

There is a substantial risk of loss in trading futures and options. Past performance is not indicative of future results.

Any stock, options or futures symbols displayed are for illustrative purposes only and are not intended to portray recommendations.

- IRS Circular 230 Notice: These statements are provided for information purposes only, are not intended to constitute tax advice which may be relied upon to avoid penalties under any federal, state, local or other tax statutes or regulations, and do not resolve any tax issues in your favor.
- Interactive Brokers LLC is a member of [NYSE FINRA SIPC](#)

# TOGGLE

THE FUTURE OF CRYPTOCURRENCY TRADING

March 2022

tog•gle

/ˈtägəl/

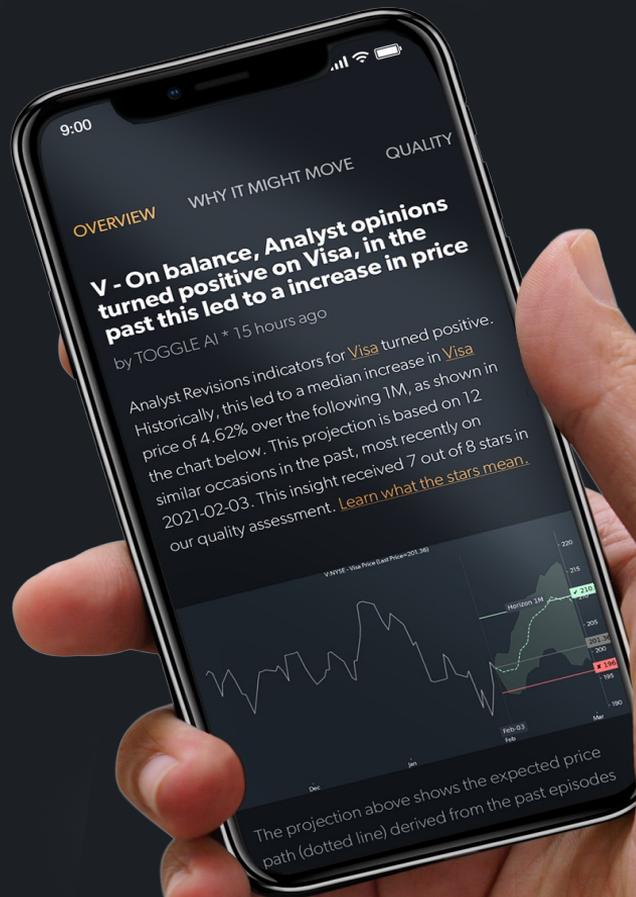
verb

1. COMPUTING

switch from one effect, feature, or state to another by using a toggle.  
"the play/pause button toggles between those functions"

[www.toggle.ai](http://www.toggle.ai)

[contact@toggle.ai](mailto:contact@toggle.ai)



## Disclaimer



**Note that past performance does not indicate future performance.** TOGGLE email briefings, newsletters, alerts, insights, and similar publications "Publications" do not reflect any opinions of TOGGLE or its affiliates. Publications are meant for informational purposes only, are not intended to serve as a recommendation to buy or sell any security in a brokerage account or any platform, and are not an offer or sale of a security nor an endorsement or advertisement of the same. While TOGGLE seeks to ensure the accuracy of the information it presents, it has no obligation and shall not be liable for errors in any data, information, or Publications accessible through TOGGLE products or services. All investments involve risk and the past performance of a security or financial product does not guarantee future results or returns. TOGGLE is not a broker-dealer nor an investment adviser, and makes no representations or warranties, express or implied, and disclaims any and all warranties with respect to any information accessible via any TOGGLE Publications or TOGGLE data.

## (PROFITABLE) CRYPTO INVESTING IS HARD WORK



Finding promising trade ideas regardless of style – day-trading, swing-trading, fundamental – requires a substantial time commitment

- Data on crypto currencies is immensely detailed and widely available (often free, too) but **dispersed across numerous sites** (CryptoWatch, Blockchain, CryptoCompare) and still **has to be analyzed before it's useful**
- **News and data changes daily**, often several times intra-day
- **Market data is constantly updating** (prices, volume, positioning)

So how do you follow all this for not one crypto, but hundreds of different crosses?  
It's like sipping from an ocean with a straw.

# THE TIME-TESTED WORKHORSE: SPREADSHEET



My Crypto Portfolio

File Edit View Insert Format Data Tools Add-ons Help

100% \$ % .0 .00 123 Arial 10 B I S A

`=CRYPTOFINANCE("BTC/USD", "change", "24h")`

	A	B	C	D	E	F	G	H
1	Name	Exchange:Ticker	Spot price	Change 1h	Change 24h	7d price	Volume 24h	Marketcap
2	Bitcoin	BTC/USD	\$9,903.33	1.15%	-8.63%		\$6,618,690,000.00	\$167,144,824,013.0
3	Ethereum	ETH/USD	\$853.15	0.99%	-10.09%		\$1,851,160,000.00	\$83,388,692,511.0
4		ETH/BTC	0.08648	0.80%	2.30%		BTC 184,498.35	BTC 8,520,177.0
5	Litecoin	LTC/USD	\$209.22	1.01%	-6.33%		\$816,181,000.00	\$11,584,683,547.0
6		KRAKEN:LTC/USD	\$207.42	1.01%	-6.33%		BTC 8,437.28	\$11,584,683,547.0
7	Cardano	ADA/BTC	0.00003	1.19%	-18.62%		BTC 12,677.34	\$863,611.0
8	NEO	NEO/BTC	0.01216	0.96%	-9.05%		BTC 14,142.37	\$790,715.0
9	Stellar	XLM/BTC	0.00004	1.49%	-22.87%		BTC 3,531.77	\$671,958.0
10	EOS	EOS/ETH	\$0.01	0.74%	-16.93%		230,375.28	\$6,645,284.0
11	IOTA	IOTA/BTC	0.000201	0.88%	-6.41%		BTC 8,901.54	\$556,971.0
12		BINANCE:IOTA/BTC	0.000198	0.88%	-6.41%		BTC 2,625.73	\$558,417.0
13	Dash	DASH/USD	\$600.65	0.82%	-15.68%		\$85,265,800.00	\$4,748,049,736.0
14		BITTREX:DASH/USDT	\$599.52	-4.18%	-15.66%		\$236,824.97	\$4,747,907,449.0
15	Monero	XMR/USD	\$277.13	0.68%	-11.21%		\$48,836,500.00	\$4,367,681,896.0
16	NEM	XEM/USD	\$0.40	1.13%	-28.17%		\$20,030,600.00	\$3,627,261,000.0
17	VeChain	VEN/USD	\$5.72	1.57%	1.97%		\$71,578,200.00	\$2,726,488,209.0
18	TRON	TRX/USD	\$0.04	1.55%	-20.04%		\$181,161,000.00	\$2,724,828,640.0

Source: Toggle, Binance, Bitstamp, Bittrex – Date May 29, 2002

Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.

## BUT WHAT DO YOU PUT INTO THE SPREADSHEET?



In comparison to equities, the granularity of market data available to analyze in crypto markets is astounding.

You can monitor everything from **individual buys and sells, entry price for holdings of each investor** (so you know if they are weak or strong hands), **how long they've had each position**, and more.

In crypto, all that data is available (and free). But how do you analyze it all?

Source: Toggle

*Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.*

# EXAMPLES OF SOME NOVEL DATA POINTS



## Puell Multiple

The Puell Multiple is a market metric for estimating the level of sell pressure in the market coming from miners. It measures – adjusted for daily variation – the amount of reward miners are currently receiving to mine.

## Hash Rate

Hash Rate is used to measure the total computational power being used to process transactions and mine new coins. Recording any individual transaction in the blockchain ledger requires miners to guess an alphanumeric code (called a hash): each hash is random and complex, so it takes significant energy to power these computers.

## Realized vs current market cap value

The realized cap considers the price at which each coin is last moved (rather than evaluating the entire stock TODAY). It will discount long dormant or lost coins. It serves as a great measure of how much “unrealized” profit there may be that could potentially come into the market.

# IT'S TIME FOR A NEW INVESTING DASH



# MACHINES CAN MONITOR MORE THAN YOU CAN



## My Securities

+ All (10) portfolio (0) Watchlist (10)

ALL ASSETS		What's currently moving the asset?		
	<b>ADAUSD</b> Cardano	\$0.8040	+0.00/+0.55%	
	<b>BTCUSD</b> Bitcoin	\$38,951.01	+934.53/+2.46%	↑  Technicals
	<b>DASHUSD</b> Dash	\$86.15	+0.32/+0.37%	↑  Technicals
	<b>EOSUSD</b> EOS	\$1.9750	+0.05/+2.35%	↑  Technicals
	<b>ETHUSD</b> Ethereum	\$2,580.68	+87.45/+3.51%	↑  Technicals
	<b>LTCUSD</b> Litecoin	\$100.26	+1.61/+1.64%	↑  Technicals <span>+1</span>
	<b>MIOTAUSD</b> IOTA	\$0.6973	+0.00/+0.30%	
	<b>NEOUSD</b> Neo	\$20.38	-0.13/-0.66%	
	<b>XLMUSD</b> Stellar	\$0.1711	+0.00/+0.36%	↑  Technicals
	<b>XMRUSD</b> Monero	\$170.84	+12.54/+7.92%	

Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.

# THE CASE FOR SMART ASSISTANTS



Smart assistants are ubiquitous in our daily lives... Why not in investing?

- Machines are really good at monitoring and processing **large amounts of information**
- They can **uncover price patterns in assets** around events/data changes
- They can **test each relationship for robustness** ... in seconds
- They can **deliver curated insights** tailored to specific users

# MACHINES CAN EMPOWER TRADERS



Where in the investment process can machines add most value

- Idea generation (“What crypto pairs best reflect my thesis?”)
- Hypothesis testing (“Is my hunch/instinct correct?”)
- Asset due diligence (“What am I missing?”)
- Portfolio risk management (“Do I really want to sell here? Should I get out?”)

# MACHINES ARE ... GOOD WITH NUMBERS

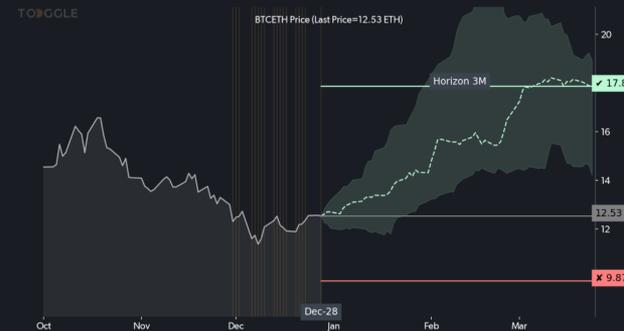


Instead of competing with them, machines can empower users by replicating – fast – the work investors are already doing (or should be)

BTCETH - BTCETH is at a recent low of 12.53, in the past this led to a increase in price (hit rate: 100% price: 12.53 date: 2021-12-28)

by Toggle A.I. Dec-29-2021

Price Level indicators for **BTCETH** are close to a recent low. Historically, this led to a median increase in **BTCETH** price of **43% over the following 3M**, as shown in the chart below. TOGGLE analyzed **4** similar occasions in the past to produce the median projection and the confidence band below ([How do you do this?](#)), most recently on **2021-11-30**. This insight received 6 out of 8 stars ([What are stars?](#)) in our quality assessment.



Source: Toggle

Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.

# IDEA GENERATION



Machine-generated ideas can connect your views to specific assets



Source: Toggle

Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.

# THEY HELP YOU UNDERSTAND THE "WHY"



Source: Toggle

Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.

# LOOK BEFORE YOU LEAP (TRADE)



Machines can help you test your instincts against the data: has the sell-off gone far enough? Historical data can give you a lot of answers.



Source: Toggle

Any trading symbols, entities or investment products displayed are for illustrative purposes only and are not intended to portray recommendations. Past performance is not necessarily indicative of future results.

# TOGGLE

Questions?

[www.toggle.ai](http://www.toggle.ai)

[jan@toggle.ai](mailto:jan@toggle.ai)

