



AUTONIO

User Manual V1.1

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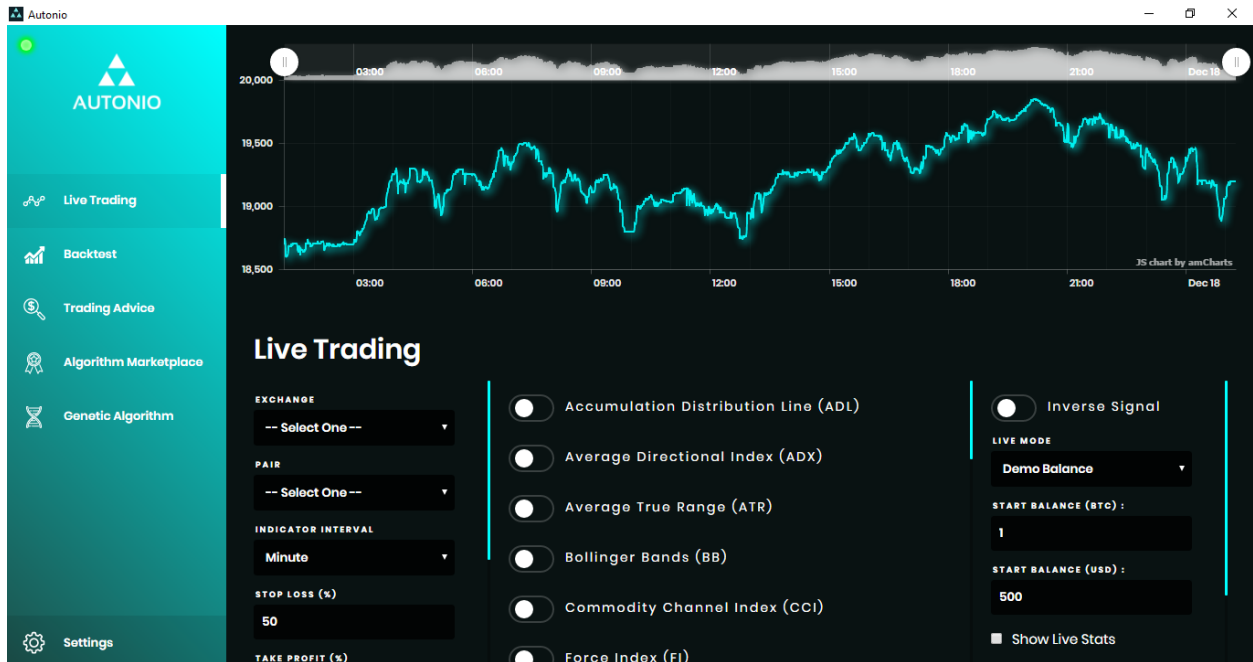


Figure 1- Autonio Application

1. LIVE TRADING

Always backtest your strategy settings before live trading. First, you must set your API Keys from the desired exchange before starting a live trade. Jump to **Section 7** to get additional information regarding API keys. Before starting live trade, please make sure you have 0.0005BTC worth asset and 0.001BTC worth base as minimum start balance, this is exchange minimum trade requirement with API and API details are correct with trade option and read balance enabled, with a steady internet.

1.1 GRAPH REPRESENTATION

Real time graph of price x time can be viewed. Red and green arrows will appear on the graph as trade signals. Red represent sell signal and green represent buy signal.

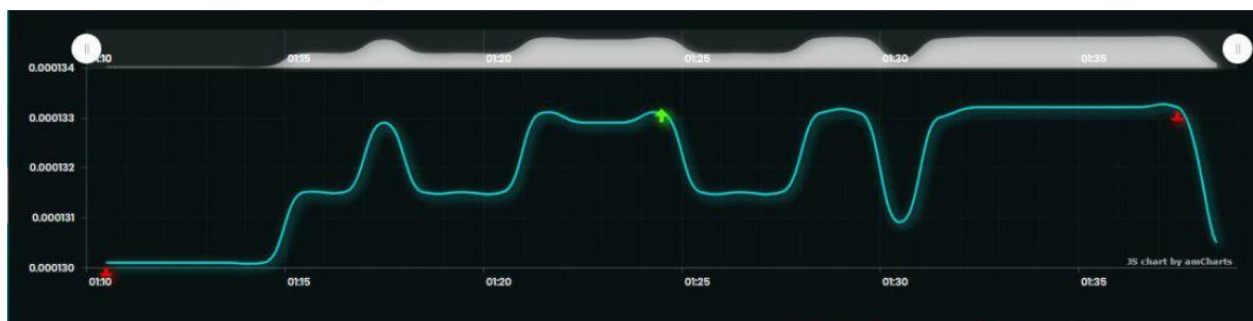
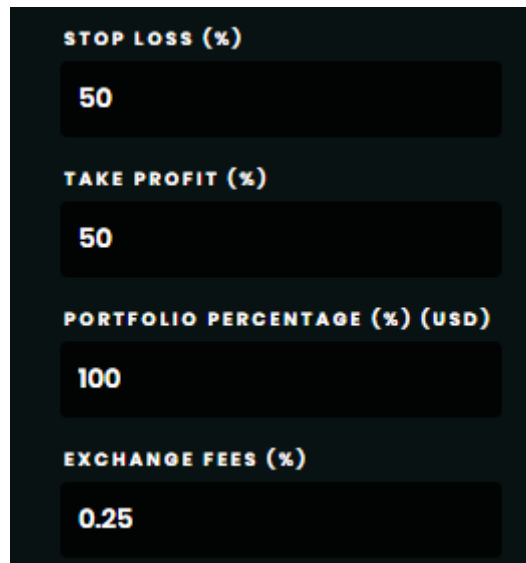


Figure 2 - Graph



STOP LOSS (%)	50
TAKE PROFIT (%)	50
PORTFOLIO PERCENTAGE (%) (USD)	100
EXCHANGE FEES (%)	0.25

Figure 3

1.2 STOP LOSS (%)

A stop-loss order is designed to limit an investor's loss on a position in a token. Although most investors associate a stop-loss order only with a long position, it can also be used for a short position, in which case the token would be bought if it trades above a defined price. The best trailing stop-loss percentage to use is either 15% or 20%. If you use a pure momentum strategy a stop loss strategy can help you to completely avoid market crashes, and even earn you a small profit while the market loses 50%.

1.3 TAKE PROFIT (%)

A take-profit order (T/P) is an order used by currency traders specifying the exact rate or number of pips from the current price point where to close out their current position for a profit. The rate deemed to be the level where the trader wants to take a profit is sometimes referred to as the "take-profit point". For example, if you are long a currency pair position and believe the price will rise to a certain level, but are unsure what it will do beyond that level, placing a take-profit order at that point will automatically close out your position allowing you to lock in profit. Example: Buy \$100 worth of Yen at 107.4 Yen per dollar = $100 \times 107.40 = 10,740$ Yen.

Place a take-profit order at 108.80. Price then rises from 107.40 to 108.80 Take-profit order automatically executed to sell \$100 and buy 10,880 Yen.

1.4 PORTFOLIO PERCENTAGE (%)

The percentage of your portfolio that you're allowing Autonio to execute trades with.

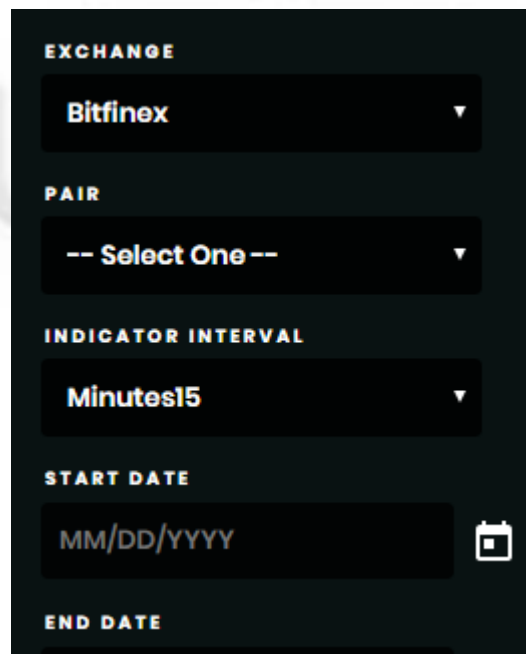
1.5 EXCHANGE FEES (%)

Fees charge by the exchanges for each trade executed. To look at the details on fees charged by the exchanges, please follow the links provided below:

- [Bittrex-Fees](#)
- [Bitfinex-Fees](#)
- [Kraken-Fees](#)
- [Bitstamp-Fees](#)
- [QuadrigaCX-Fees](#)

2. BACKTEST

This section is used to backtest your strategies. Always backtest your strategies before live trading to make sure you have the right strategy in place. Please keep in mind that when you backtest you don't have any latency in data, when you trade live with same settings, there is a small latency of milliseconds, this will result in not taking that trade signal, during live trade the algo selects only the most confirmed and aligned non latent data for algorithmic calculations, and yields in the trade signal and execution, this often results in a 20% better or worse performance to the backtest results. You may have 30 signals in backtest and only 10 or about 30 signals in live trade, as live trade algo only selects the most confirmed signal from your parameters in live trade, this was done to make sure no abnormalities happen when trading with real money.



The image shows a dark-themed user interface for configuring a backtest. It features several labeled sections with dropdown menus and input fields. The 'EXCHANGE' section has a dropdown menu currently showing 'Bitfinex'. The 'PAIR' section has a dropdown menu showing '-- Select One --'. The 'INDICATOR INTERVAL' section has a dropdown menu showing 'Minutes15'. The 'START DATE' section has a text input field with the placeholder 'MM/DD/YYYY' and a calendar icon to its right. The 'END DATE' section is partially visible at the bottom.

Figure 4

2.1 EXCHANGE

Here you can choose the exchange you want to backtest. As in V1 release, there are currently five exchanges to choose from.

Bitfinex, OKCoin, Kraken, Bittrex, Bitstamp, QuadrigaCX

2.2 PAIR

Here you can choose the currency pair you want to trade.

e.g. BTCUSD, LTCUSD, BTCLTC, ETHLTC, ETCUSD etc.

2.3 INDICATOR INTERVAL

The specified time period of the indicator. Options are:

15 Minutes, 30 Minutes, 1 Hour, 2 Hours, 4 Hours, 12 Hours and 1 Day.

2.4 START DATE AND END DATE

Start date and end date to backtest your strategy.

3. INDICATORS

3.1 ACCUMULATION DISTRIBUTION LINE (ADL):

Accumulation/Distribution Line is a momentum indicator that attempts to gauge supply and demand by determining whether investors are generally "accumulating" (buying) or "distributing" (selling) a certain token by identifying divergences between token price and volume flow. The accumulation/distribution is calculated by first calculating the money flow multiplier, and then multiplying the money flow multiplier by the period's volume. If a token's price is in a downtrend while the accumulation/distribution line is in an uptrend, the indicator shows there may be buying pressure and the token's price may reverse. Consequently, the token may reverse and trend up. Conversely, if a token's price is in an uptrend while the accumulation/distribution line is in a downtrend, the indicator shows there may be selling pressure, or high distribution. This may cause the token's price to reverse and turn into a downtrend.

More info: [ADL-Investopedia](#), [ADL-OnlineTradingConcepts](#)

3.2 AVERAGE DIRECTIONAL INDEX (ADX):

The *Average Directional Index (ADX)* is used to measure the strength and momentum of an existing trend.



Figure 5 - Average Directional Index (ADX)

More info: [ADX-StockCharts](#), [ADX-Investopedia](#)

3.3 AVERAGE TRUE RANGE (ATR):

The true range indicator is the greatest of the following:

- *current high less the current low*
- *the absolute value of the current high less the previous close*
- *the absolute value of the current low less the previous close.*

ATR is an exponential moving average of the true range. Additionally, it does not indicate the price direction, rather it is used primarily to measure volatility caused by gaps and limit up or down moves.

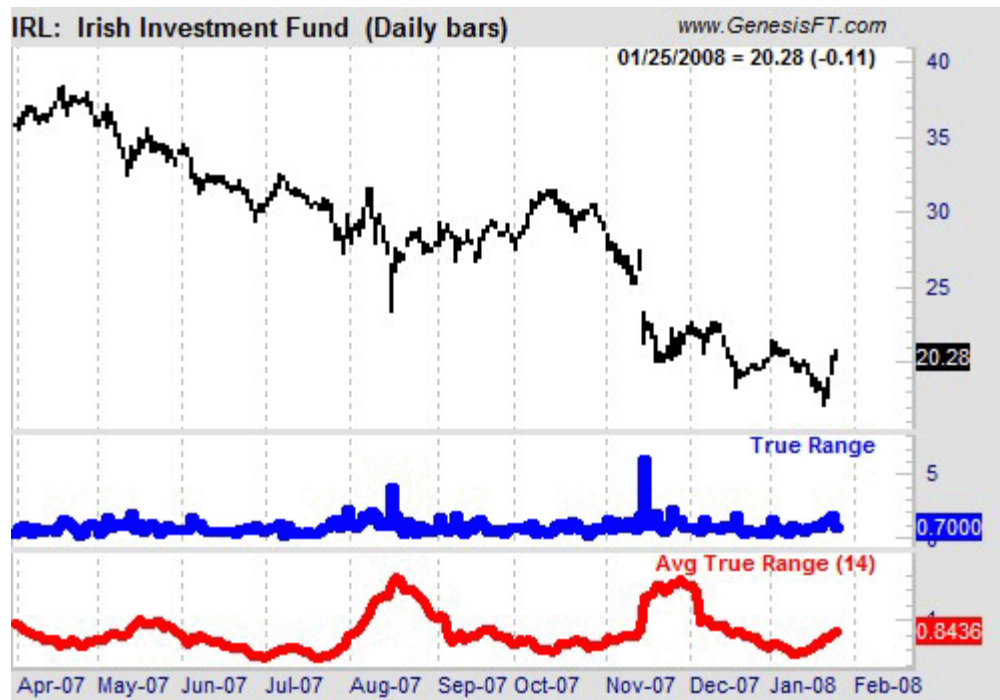


Figure 6 - Average True Range (ATR)

More info: ATR-Investopedia

3.4 BOLLINGER BANDS (BB)

A *Bollinger Band* is plotted two standard deviations away from a simple moving average. They consist of a center line and 2 price channels (bands) above and below it. The center line is an exponential moving average; the price channels are the standard deviations of the token being studied. The bands will expand and contract as the price action of an issue becomes volatile (expansion) or becomes bound into a tight trading pattern (contraction). Many traders believe that the closer the prices move towards the upper band, the more overbought the market, and the closer the prices move towards the lower band, the more oversold the market.

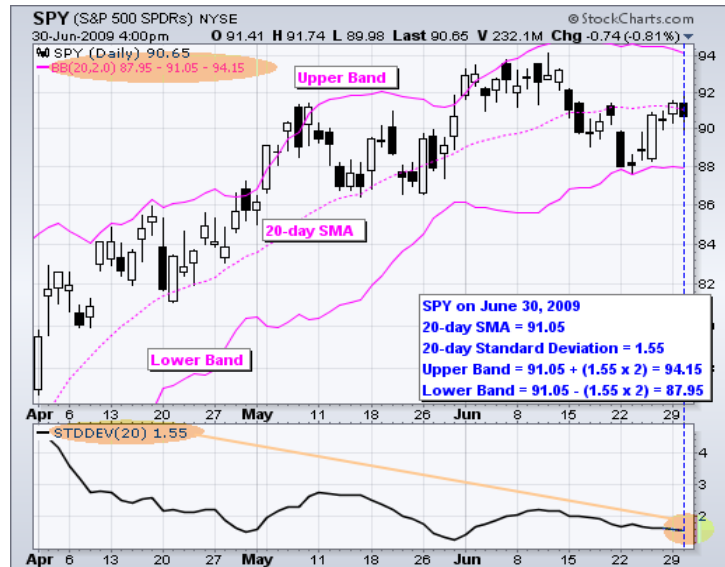


Figure 7 - Bollinger Bands (BB)

More info: [BB-Investopedia](#), [BB-StockCharts](#)

3.5 COMMODITY CHANNEL INDEX (CCI):

Commodity Channel Index (CCI) is a versatile indicator that can be used to identify a new trend or warn of extreme conditions. In general, CCI measures the current price level relative to an average price level over a given period of time. CCI is relatively high when prices are far above their average. CCI is relatively low when prices are far below their average. In this manner, CCI can be used to identify overbought and oversold levels.

CCI measures the difference between a token's price change and its average price change. High positive readings indicate that prices are well above their average, which is a show of strength. Low negative readings indicate that prices are well below their average, which is a show of weakness.

More info: [CCI-StockCharts](#), [CCI-OnlineTradingConcepts](#)

3.6 FORCE INDEX (FI):

The Force Index (FI) can be used to reinforce the overall trend, identify playable corrections, or foreshadow reversals with divergences. There are three essential elements to a token's price movement: *direction*, *extent* and *volume*. The Force Index combines all three as an oscillator that fluctuates in positive and negative territory as the balance of power shifts.

The Force Index uses both price and volume to measure buying and selling pressure. The price portion covers the trend, while the volume portion determines the intensity. At its most basic, chartists can use a long-term Force Index to confirm the underlying trend.

The bulls have the edge when the 100-day Force Index is positive. The bears have the edge when the 100-day Force Index is negative. Armed with this information, traders can then look for short-term setups in harmony with the larger trend, such as bullish setups in a larger uptrend or bearish setups within a larger downtrend.

More info: [FI-StockCharts](#)

3.7 KNOW SURE THING (KST):

Know Sure Thing (KST) is a two-line indicator used to determine momentum in token trends. As an oscillator it fluctuates above and below zero, providing trade signals and analytical insight based on divergence with price and KST and signal line crossovers. The indicator formula utilizes four different time frames to show overall momentum, and not just momentum over one specific timeframe:

RoCMA1 = 10-Period SMA of 10-Period Rate-of-Change

RoCMA2 = 10-Period SMA of 15-Period Rate-of-Change

RoCMA3 = 10-Period SMA of 20-Period Rate-of-Change

RoCMA4 = 15-Period SMA of 30-Period Rate-of-Change

KST Line = (RoCMA1 x 1) + (RoCMA2 x 2) + (RoCMA3 x 3) + (RoCMA4 x 4)

Signal Line = 9-period SMA of KST*

**SMA stands for Simple Moving Average and RoC stands for Rate-of-Change.*

Buy signals occur when the KST crosses above the zero line, or when the KST crosses above its signal line. Sell signals occur when the KST crosses below the zero line, or when the KST crosses below the signal line. When the KST stays above zero during an uptrend, it confirms the trend. When KST stays below zero during a downtrend, it confirms the downtrend.

More info: [KST-StockCharts](#)

3.8 MOVING AVERAGE CONVERGENCE DIVERGENCE (MACD):

Moving Average Convergence Divergence (MACD) is a trend-following momentum indicator that shows the relationship between two moving averages of prices. The MACD is calculated by subtracting the 26-day exponential moving average (EMA) from the 12-day EMA. A nine-day EMA of the MACD, called the "signal line", is then plotted on top of the MACD, functioning as a trigger for buy and sell signals.

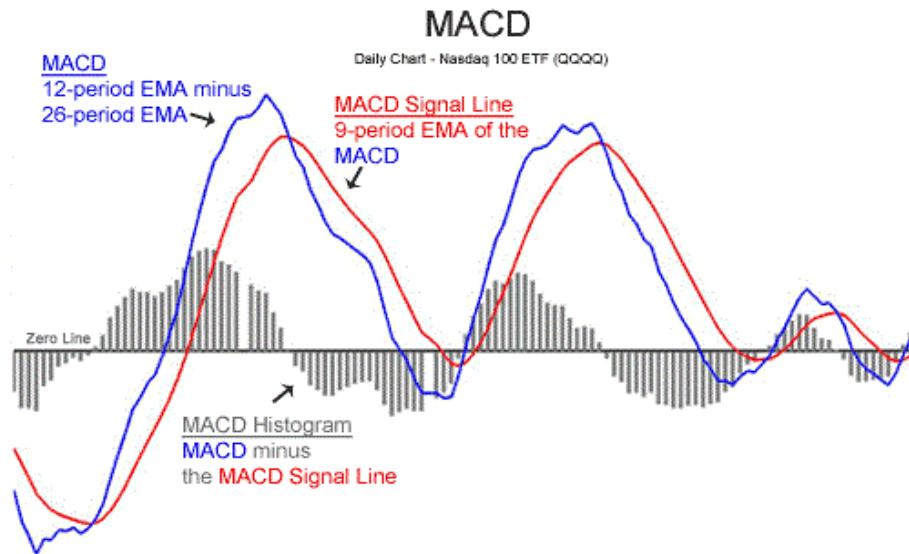


Figure 8 - Moving Average Convergence Divergence (MACD)

More info: [MACD-StockCharts](#), [MACD-Investopedia](#)

3.9 ON BALANCE VOLUME (OBV):

On Balance Volume (OBV) is used to measure positive and negative volume flow. Chartists can look for divergences between OBV and price to predict price movements or use OBV to confirm price trends. There are three rules implemented when calculating the OBV. They are:

- If today's closing price is higher than yesterday's closing price, then: Current OBV = Previous OBV + today's volume
- If today's closing price is lower than yesterday's closing price, then: Current OBV = Previous OBV - today's volume
- If today's closing price equals yesterday's closing price, then: Current OBV = Previous OBV

More info: [OBV-StockCharts](#), [OBV-Investopedia](#)

3.10 PARABOLIC STOP AND REVERSE (PSAR):

The Parabolic Stop and Reverse (PSAR) indicator combines price and time components in an attempt to generate potential buy and sell signals. The PSAR advertises itself as an effective tool to determine where to place stop loss orders.



Figure 9 - Parabolic Stop and Reverse (PSAR)

More info: [PSAR-StockCharts](#), [PSAR-Investopedia](#)

3.11 RATE OF CHANGE (ROC):

The *Rate of Change (ROC)* indicator measures the percentage change of the current price as compared to the price a certain number of periods ago. The ROC indicator might be used to confirm price moves or detect divergences; it might also be used as a guide for determining overbought and oversold conditions.

$$\text{Rate of Change: } [(\text{Current Price} / \text{Price } n \text{ periods ago}) - 1] \times 100$$

Generally, the Rate of Change is calculated based on 14-periods for input n , but of course can be modified to any trader preferred period.

More info: [ROC-StockCharts](#)

3.12 RELATIVE STRENGTH INDEX (RSI):

The *Relative Strength Index (RSI)* is a momentum indicator developed by noted technical analyst Welles Wilder that compares the magnitude of recent gains and losses over a specified time period to measure speed and change of price movements of a token. It is primarily used to attempt to identify overbought or oversold conditions in the trading of an asset.

The relative strength index is calculated using the following formula:

$$RSI = 100 - 100 / (1 + RS)$$

Where $RS = \text{Average gain of up periods during the specified time frame} / \text{Average loss of down periods during the specified time frame}$



Figure 10 - Relative Strength Index (RSI)

More info: [RSI-StockCharts](#)

3.13 SIMPLE MOVING AVERAGE (SMA):

The *Simple Moving Average (SMA)* is arguably the most popular technical analysis tool used by traders. The SMA is often used to identify trend direction, but can be used to generate potential buy and sell signals.

Simple Moving Average (SMA)

Daily Chart - Dow Jones Industrial Average ETF (DIA)



Figure 11a - Simple Moving Average (SMA) Downtrend

Simple Moving Average (SMA)

Daily Chart - Dow Jones Industrial Average ETF (DIA)



Figure 11b - Simple Moving Average (SMA) Uptrend

More info: [SMA-StockCharts](#), [SMA-Investopedia](#)

3.14 STOCHASTIC OSCILLATOR (KD)

The *Stochastic Oscillator (KD)* compares the closing price of a token to the range of its prices over a certain period of time. The sensitivity of the oscillator to market movements is reducible by adjusting that time period or by taking a moving average of the result.

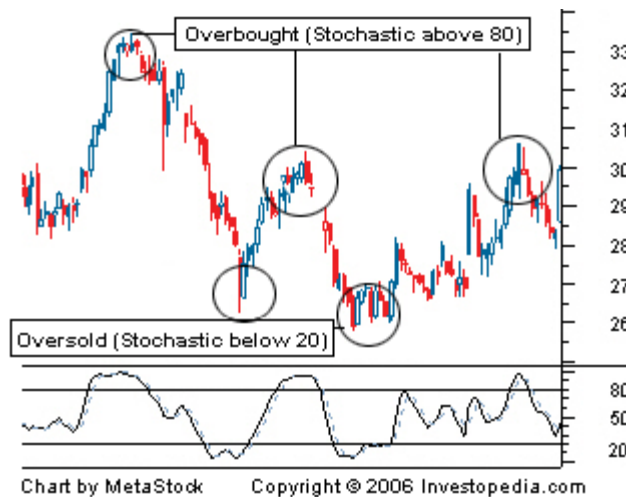


Figure 12 - Stochastic Oscillator (KD)

More info: [Stochastic Oscillator-StockCharts](#)

3.15 TRIPLE EXPONENTIALLY SMOOTHED AVERAGE (TRIX)

Triple Exponentially Smoothed Average (TRIX) is used by technical traders that shows the percentage change in a triple exponentially smoothed moving average. When TRIX is applied to triple smoothing of moving averages, it is designed to filter out price movements that are considered insignificant or unimportant.

More info: [TRIX-StockCharts](#), [TRIX-Investopedia](#)

3.16 VOLUME-WEIGHTED AVERAGE PRICE (VWAP):

Volume-Weighted Average Price (VWAP) is exactly what it sounds like: the average price weighted by volume. VWAP equals the dollar value of all trading periods divided by the total trading volume for the current day. The calculation starts when trading opens and ends when trading closes. Because it is good for the current trading day only, intraday periods and data are used in the calculation.

More info: [VWAP-StockCharts](#), [VWAP-Investopedia](#)

3.17 EXPONENTIAL MOVING AVERAGE (EMA)

The Exponential Moving Average (EMA) weighs current prices more heavily than past prices. This gives the Exponential Moving Average the advantage of being quicker to respond to price fluctuations than a Simple Moving Average; however, that can also be viewed as a disadvantage because the EMA is more prone to 'whipsaws'.

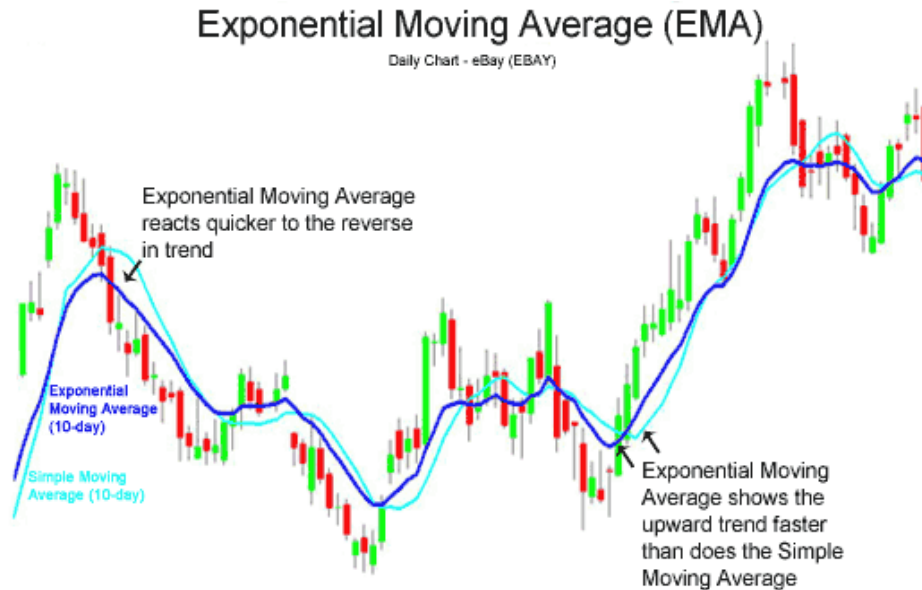


Figure 13 - Exponential Moving Average (EMA)

More info: [EMA-StockCharts](#), [EMA-Investopedia](#)

3.18 WEIGHTED MOVING AVERAGE (WMA)

The *Weighted Moving Average (WMA)* places more importance on recent price moves; therefore, the Weighted Moving Average reacts more quickly to price changes than the regular Simple Moving Average. A basic example (3-period) of how the Weighted Moving Average is calculated is presented below:

- Prices for the past 3 days have been \$5, \$4, and \$8.
- Since there are 3 periods, the most recent day (\$8) gets a weight of 3, the second recent day (\$4) receives a weight of 2, and the last day of the 3 periods (\$5) receives a weight of just 1.
- The calculation is as follows: $[(3 \times \$8) + (2 \times \$4) + (1 \times \$5)] / 6 = \6.17

The Weighted Moving Average value of 6.17 compares to the Simple Moving Average calculation of 5.67. Note how the large price increase of 8 that occurred on the most recent day was better reflected in the Weighted Moving Average calculation.

More info: [MAWeighted-OnlineTradingConcepts](#)

3.19 WILDER'S SMOOTHING (SMOOTHED MOVING AVERAGE, WEMA)

Wilder's Smoothing and the EMA are actually the same indicator, despite being very different in how they are calculated. To reveal the equivalent EMA simply multiply the period by two and subtract one, test it for yourself; a 50 period WS-MA is equivalent to a 99 period EMA. You can also reveal the EMA smoothing period from any two data sets using the following formula:

$$N = (2 - ((MA - MA[1]) / (Close - MA[1]))) / ((MA - MA[1]) / (Close - MA[1]))$$

More info: [Wilders-Smoothing](#)

3.20 WILLIAMS R (W%R)

Williams %R, sometimes referred to as the *Williams Percent Range*, is a momentum indicator that measures overbought and oversold levels, comparable to a stochastic oscillator. The Williams %R is used to establish entry and exit points in the market. It compares the close of a token to the high-low range over a period of time, typically 14 days.

More info: [Williams%R-OnlineTradingConcepts](#), [Williams%R-Investopedia](#)



AUTONIO

4. TRADING ADVICE

You can consult traders to help you develop strategies and get a deeper understanding of both the platform and trading. If you are professional trader, you can apply to be a consultant to help other people develop trading strategies in exchange for a fee paid in NIO. You have to get a total profit of 100% in live trading to become eligible as advisor. You will get a pop up message when you achieve 100% profit in live trading.

Rank	Name	Total Profit(%)	Constultancy Fees	Consult
1	Demo	100	100 NIO	<button>CONSULT</button>

Figure 14

5. ALGORITHM MARKETPLACE

Best algorithms will be sorted in the form of a leaderboard. Users can buy/sell these strategies from the Algorithm marketplace.

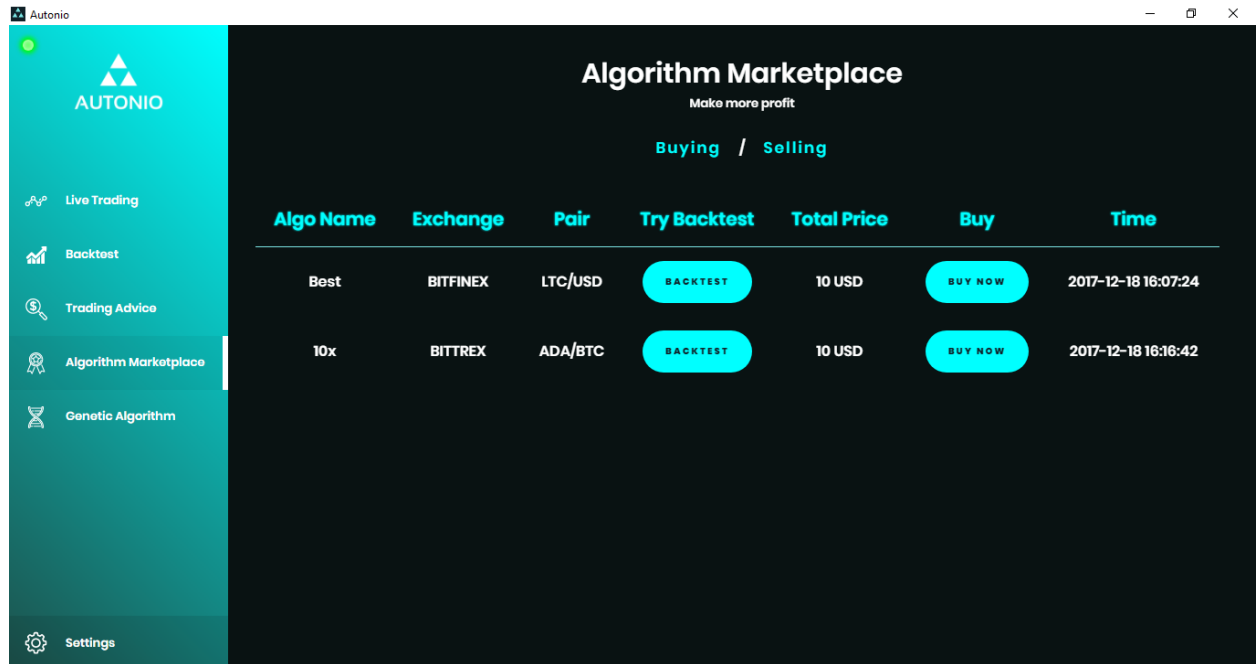


Figure 15

You will get a pop up message on Autonio platform to become eligible to sell strategy when you achieve a total profit of atleast 20% or more than 20% in live trading.

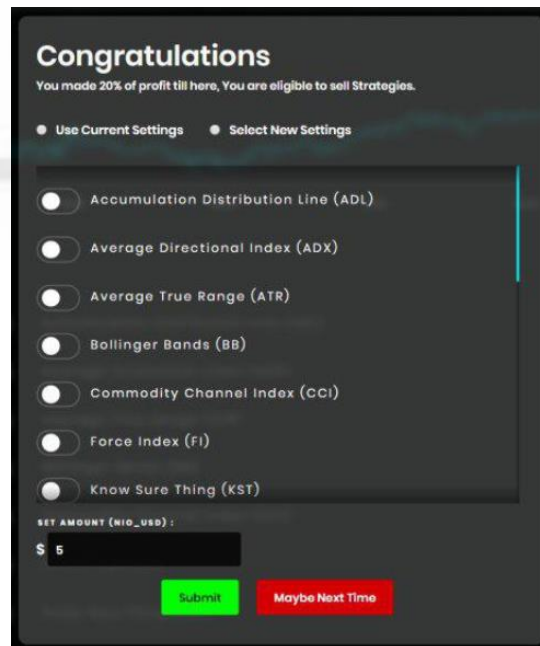


Figure 16

6. GENETIC ALGORITHM

This section is currently under development. It will be available in a future update.

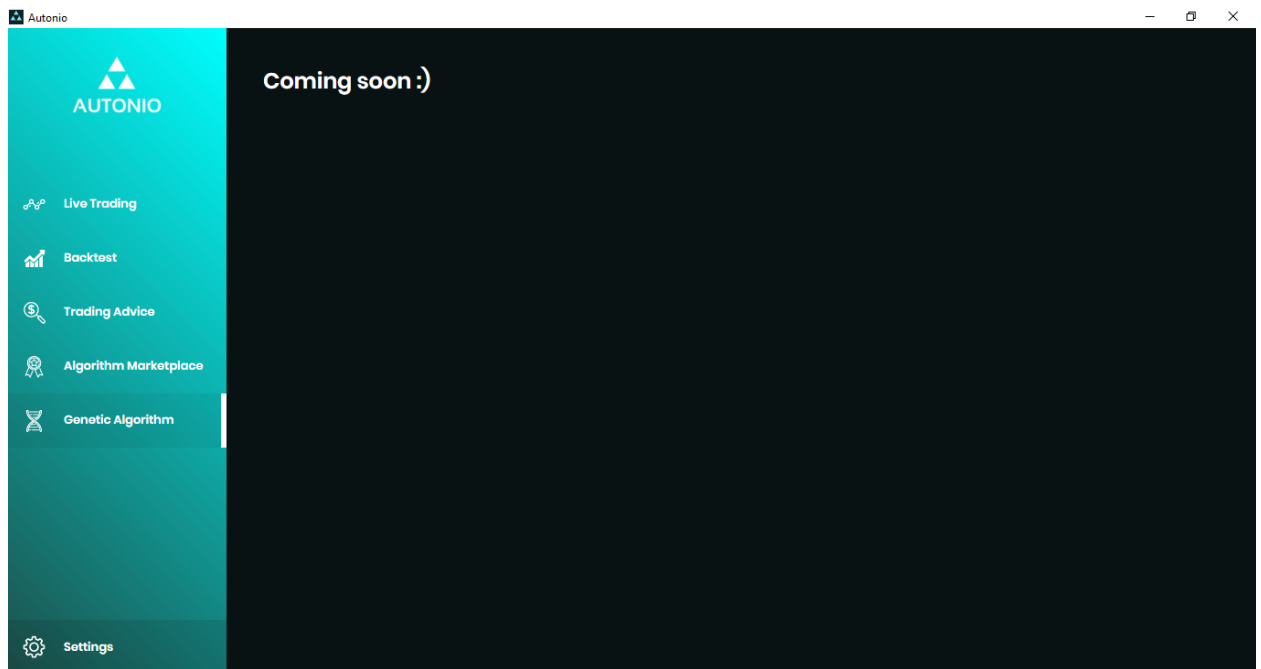


Figure 17

7. SETTINGS

Your API-Keys are stored locally in your computer, so even if you lose your password, no one will be able to use it without API. When you sign out, you will have to re-enter your API-Keys, this is for your security.

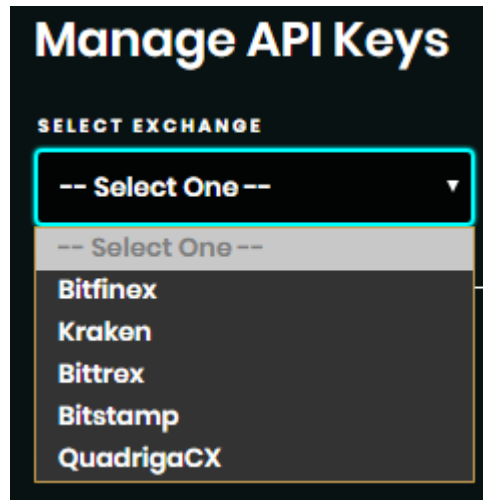


Figure 18

- Get API Keys for Bitfinex:
 - <https://support.bitfinex.com/hc/en-us/articles/115002349625-API-Key-Setup-Login>
- Get API Keys for Kraken:
 - <https://www.kraken.com/help/api>
- Get API Keys for Bittrex:
 - <https://bittrex.com/home/api>
- Get API Keys for Bitstamp:
 - <https://www.bitstamp.net/article/api-key-implementation>
- Get API Keys for QuadrigaCX
 - https://www.quadrigacx.com/api_info