

Gray Rock Capital

white paper

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Abstract

Cryptocurrency has risen as a viable asset class; an increasing number of retail investors and financial institutions has actively started to take interest in cryptocurrencies. If the first bitcoin craze back in late 2017 and early 2018 could be attributed largely to the speculative outlooks of retail investors, the current crypto rally is fueled by massive capital inflows from private equities, hedge funds, and other asset management firms. Even the traditional crypto-skeptics from Wall Street and other finance sectors are slowly adjusting their stances in the fear that they might miss the rising crypto tide.

Despite such cataclysmic trends happening right now in the crypto market, it is next to impossible for retail investors to conduct systemic analyses or valuations on cryptocurrencies. In the absence of objective benchmarks or reliable data other than whitepapers, retail investors are exposed to absurdly high risks in the face of unprecedented volatilities.

Grayrock is a platform that introduces algorithm-based trading bots to retail investors. Trading bots raise profits in a consistent manner based on technical analyses and a wide variety of macro data. By making these bots available to retail investors, Grayrock makes it possible for crypto investors to make optimal returns at a reasonable cost.



Context

1. Rise of Bitcoin & Ethereum

Bitcoin has traded sideways for 2 years since the epic crash of early 2018. The trend, however, reverted to an up-market throughout the entirety of 2020; during the last few weeks, bitcoin broke out its previous highs in a row and skyrocketed to new all-time highs. What was behind bitcoin's latest surge? The answer is clear: huge capital influx from the financial markets. The collapsed real-world economy damaged by COVID-19 forced the institutions to find an alternative hedge against market risk. Because bitcoin is largely unaffected by the real-world economy, more and more institutions are considering bitcoin as a new safe asset. Accordingly, a considerable portion of capital outflow from gold is expected to have been relocated to bitcoin, and the decrease in gold's market cap and increase in bitcoin's market cap seem to be meaningfully correlated. To that end, many traditional investment companies are publishing bullish bitcoin price targets, most notable of which are \$146,000 from JP Morgan Chase and \$500,000 from Ark Investment.

On top of bitcoin as a store of value, bitcoin is also being recognized as an actual investment asset class. Grayscale - the largest cryptocurrency management firm in the world - has launched and is managing a bitcoin trust fund with a current AUM of \$20B, and Bridgewater Associates announced that they are planning to launch a bitcoin management product. Apart from private equities and asset management firms, traditional enterprises have also started to join the bitcoin rally. Microstrategy, a B2B business solution provider, currently holds \$1.125B worth

Total Value Locked(USD) in DeFi



Total Value Locked (USD) in DeFi. Source: Defi Pulse

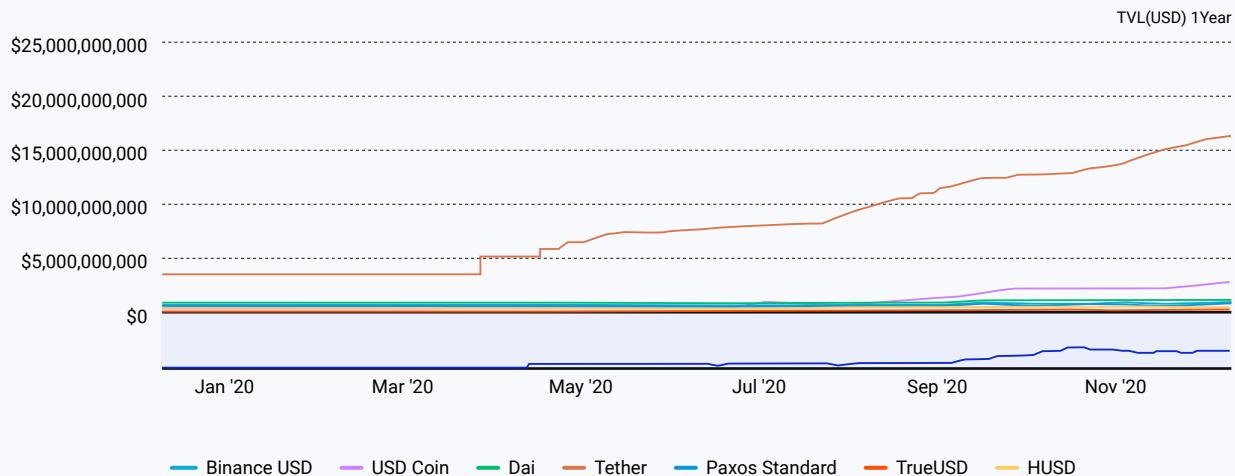
of bitcoin (which approximates to 172% return on investment as of Jan 2021 from its original purchase back in Aug, 2020), and most recently Tesla disclosed its \$1.5B bitcoin purchase. It is becoming increasingly obvious that a multitude of financial institutions have begun to recognize bitcoin as a legitimate asset class.

If bitcoin stands as the number one cryptocurrency, ethereum is securing its position as the runner-up. Smart contracts are an ethereum native feature that allows users to create and operate decentralized applications on the ethereum network. Numerous blockchain projects that use smart contracts were born and are flourishing on the ethereum network.

Ethereum rose more than 1153% during the past year alone, and the total value locked in the DeFi

Context

Stablecoin Market Capitalization. Source: Coingecko



Total Value Locked (USD) in DeFi. Source: Defi Pulse

(Decentralized Finance) ecosystem surpassed \$40B as of February 2021. Grayscale has also launched an ethereum trust fund, the current AUM of which is estimated to be \$4B. With the CME's launch of ethereum futures on Feb 8, 2021, ethereum has certainly grabbed the attention of financial institutions.

2. Rise of major altcoins

Smart contract technology on the ethereum network allowed complicated P2P transactions to take place on the blockchain without intermediaries. Using smart contracts, blockchain projects started to render a variety of real-world ideas on blockchain networks, and each project came up with its own native token. Tokens of promising projects are slowly getting the spotlight.

Chainlink and Polkadot serve as great examples of successful blockchain projects. Chainlink is a middleware platform that connects real-world data with smart contracts. Because any blockchain project that has to do with real-world data must rely on Chainlink to draw information from outside, Chainlink is growing exponentially . Not surprisingly, the price of LINK, the native crypto currency of Chainlink, has also skyrocketed. Polkadot, on the other hand, is a project that launched to solve ethereum's two main problems: high transaction fee(gas fee) and low transaction speed. By adopting interchain technology, Polkadot decreased the transaction costs and increased the scalability of the network; consequently, DOT - the native cryptocurrency of Polkadot network - also showed a 400% rise since the beginning of 2021. Apart from LINK and DOT, there are many other altcoins that have shown a strong rising

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momentum such as ADA, AAVE, and UNI. Given the consensus that altcoins would rally ensuing bitcoin's consolidation, the market is more closely watching altcoins than ever before.

3. Limits of retail investors

The recent boom of the crypto market has invited new hordes of retail investors. Unfortunately, not many of them are taking full advantage of the high-returns characteristic of crypto markets. What's worse, more and more investors are aggressively taking risks without proper analysis

Unlike the stock market, the crypto market trades 24/7. Unexpected fluctuations can hit the market anytime. However, it is realistically implausible for retail investors to track and respond to the market at any given time. In addition, new coins get issued and are circulated every day on different exchanges, which makes tracking the markets all the more difficult.

In the absence of fundamental analysis, technical analysis is, to a large extent, the only available tool for the crypto investors. Yet, without profound insights and understanding of charts, it is difficult to draw meaningful information from technical analysis. The relatively easy access to leverage available in exchanges have further aggravated the problem: the possibility of high returns allures investors to use dangerous amounts of leverage, and by doing so, they are exposed to excessive risk as a result.

Risks, volatilities, and returns. Is it ever possible for retail investors to yield substantial profits in a safer manner? How can retail investors minimize risk and maximize profits? Addressing both questions, we present Grayrock trading bot platform.

Losses to liquidity provider due to price variation

Compared to holding the original funds supplied



Introduction to Gray Rock

Introduction to Gray Rock

1. Business Model (Platform Ideas)

Grayrock is a platform that introduces developers and their trading bots to retail investors. Developers can freely upload and display their bots on Grayrock, and investors can choose bots that they would like to trust their accounts with. The biggest problem that we see in the status quo is that there are structural discrepancies between the developers' and investors' wants. A fair number of developers are coming up with advanced trading bots that have battled through frequent trials and errors. Yet developers are having a hard time gathering clients due to the absence of medium to advertise and to display their trading bots. Conversely, while the demand for systemic crypto asset management in a risk-hedged manner is increasing, crypto investors are left with few available options. Even the existing products have high entry barriers - they either come with unreasonably expensive commissions or are limited to high-net worth individuals.

Prior to grayrock, it was realistically impossible for individual investors to find developers, compare and analyze different trading bots, and to verify/backtest their performances. However, because grayrock brings together different bots with their performance, accumulated PNL, and operating strategy, individual investors can not only save the effort of manually searching and picking trading bots, but can also find the best trading bot that suits their investment preferences based on detailed comparisons.

2. Trading Bots' advantage over manual trading

Trading bots come with several advantages over individual traders. For retail investors who are relatively inexperienced and unfamiliar with market fluctuations, using trading bots could greatly increase their profits while decreasing losses. The following are a few benefits that trading bots can offer.



First, trading bots are free from time-constraints. They can track and analyze the market anytime, and are capable of immediate response to unexpected market volatilities. It is not rare to come across with situations where coins surge in the middle of lunch break or when coins crash overnight. In such cases, because responses are not possible, investors tend to lose invaluable opportunities to make huge money or prevent huge losses. Trading bots, comparatively, are safe from such time concerns as they are monitoring and responding to the market 24/7.

Secondly, trading bots can predict the market trend

Introduction to Gray Rock

with a relatively higher success rate. Reading charts and analyzing meaningful trends necessitate a lot of time and effort, not to mention an intense mental apparatus needed to process huge amounts of information. Having a successful crypto investment out of technical analyses is indeed a challenging task, considering the physical constraints that every retail trader faces. On the contrary, bots are free from physical and time constraints. Not only do they conduct multiple chart analyses simultaneously, they also run additional backtestings on identified patterns with respect to multiple variables such as circulating token cap, buying/selling momentums, and other relatable factors. Both statistically and quantitatively speaking, trading bots have a higher probability of successfully predicting the market.

Furthermore, trading bots can better respond to newly issued coins and temporary volatilities that ensue. With a solid understanding of past patterns seen from coin issuance, circulation, and fluctuations, trading bots can spot opportunities for higher returns in the midst of tokenomics roadmaps that the majority of individual investors have a hard time grasping.

Last but not least, trading bots do not react emotionally. Emotions play a very important role in investing. Many investors do recognize the need to stop losses. However, when confronted with irrational market behaviors, many investors tend to react irrationally. And here's where emotions kick in. Facing sudden dips, investors panic sell their assets and incur massive losses. Overjoyed by a temporary

surge, investors buy more assets with leverage, not realizing that they are buying at the peak. In contrast, trading bots are safe from emotions; they trade faithfully by numerical standards. Once the PNL goes beyond the targeted limit, bots sell or buy without delay. Hence, even if individual traders' profits might be higher than those of trading bots in the short term, after going through various cycles in the long run, trading bots invariably show higher returns.

How to use Grayrock

How to use Grayrock

Grayrock enables anyone who is interested to freely invest in cryptocurrencies. It is our deepest belief that everyone should be able to freely choose trading bots that fit them the best - bots that cater specifically to investors' targeted profits and investment preferences. To live up to that belief, Grayrock presents the following services.

1. Track Record

Accumulated PNLs, past performance, investment strategies, and estimated APYs of trading bots will be transparently available for everybody. Users can verify the performance of each bot and estimate how the bot would operate in the future. Users can determine which bots fit them best by looking at transaction histories regarding entries and exits of specific currencies. In short, Grayrock provides the best possible environment for users to choose the appropriate bot.

We recognize concerns for newly developed trading bots. Users cannot adequately verify the performance of newly developed bots because they do not usually have extensive trading records. To deal with the issue,

grayrock requires a 60day grace period; trading bots can be listed on grayrock only if developers provide at least 60 days of trading records. The grace period ensures that the trading bot is capable of dealing with market fluctuations. Should bugs or errors occur during the period, developers can further fix or improve on the pitfalls and can introduce advanced versions before taking in clients.

2. Leaderboard

The Leaderboard provides the rankings of trading bots in each category. Categories include but are not limited to AUM, APY, TTM, LTM, and performance fees(commissions). By comparing each category, clients can have a precise picture of

Rank ⚡ ↑	Score ⚡	Pool ↑	Manager	Total Return ↑	Total Value ↑	Risk Factor ⚡	Fee ↑
1	14,000	KRI AI Trading Bot 	KRI	+ 111.45% ↑	\$6.20M	● Risk 3/5	20%
2	12,100	GR Trading Bot 	GR Capital	+ 276% ↑	\$5.15M	● Risk 4/5	10%
3	10,000	MBL Trading Bot 	MBL	+ 175.35% ↑	\$2.7K	● Risk 2/5	5%
4	8,911	SNU AI Trading Bot 	SNU	+ 141.93% ↑	\$1.5M	● Risk 4/5	10%
5	7,000	INB AI Trading Bot 	INB	+ 94% ↑	\$2M	● Risk 2/5	5%

How to use Grayrock

how certain trading bots perform relative to others. The leaderboard also functions as a venue for bot developers to compete with other developers because rankings are updated constantly. Because higher ranks on the leaderboard are more likely to attract clients, the leaderboard would further incentivize developers to join Grayrock and build better trading solutions.

3. Customer Ratings

Grayrock will provide ratings along with the track record and the leaderboard. Reading through actual comments and feedback can give useful insight to new customers who are choosing their own trading bots. Real-time comments by the users can also provide ideas for the developers to further improve their bots.

Comments and feedback also have a 60 day grace period. Short term market forces could be tremendously volatile, and bots could incur short-term losses. However, if the losses were incurred over a prolonged period of time with several market cycles, it becomes clear that the bot is underperforming. Thus, the 60 day grace period will ensure that reviews are unbiased and transparent.

4. How to use trading bots

Once a trading bot is chosen, clients can proceed as follows:

Create an API from an exchange account for the bot



Bots execute trades through client APIs



Clients pay biweekly carried interest(performance fee) to
developers on realized profits



Client APIs are automatically discarded once the client stops
running the bot

5. Commissions

Performance fee (paid biweekly when profits are realized)

Performance fee refers to a commission that clients are charged with when trading bots realize profits. The performance fee is calculated as a percentage of the total profits realized, the specific number of which is determined by developers. For example, if you trusted \$1,000 s to a trading bot with a performance fee of 5%, and the bot realized \$200 worth of profits, then the performance fee that you need to pay is \$10.

To prevent users simply walking away with returns made by trading bots without paying performance fees, Grayrock introduces a level-up system.

Tokenomics

Tokenomics

1. GRAY Token

Gray token is the utility token of grayrock platform. Gray token is a backbone within the platform by functioning as a trust between investors and developers. Grayrock has designed diverse schemes to increase the demand for gray token and to expedite platform uses.

2. Fee discounts

Users who hold a certain amount of gray tokens over a period of time will receive a lower fee. Fee discount structure for token holders and as follow:

Tier	Gray Balance	Discounted Performance Fee	Paid in Gray
0	0 <	0%	0%
1	0 < ≤ 50 Gray	10%	12.5%
2	50Gray < ≤ 200 Gray	11%	13.75%
3	200Gray < ≤ 500 Gray	12%	15%
4	500 Gray < ≤ 1,000 Gray	14%	17.5%
5	1,000 Gray < ≤ 2,000 Gray	16%	20%
6	2,000 Gray < ≤ 5,000 Gray	17%	21.25%
7	5,000 Gray < ≤ 10,000 Gray	18%	22.5%
8	10,000 Gray <	20%	25%

In some rare instances where customers do not pay performance fees, which we believe will hardly happen, developers can still be covered from Grayrock treasury.

3. Level up system

The amount of assets that clients can trust initially is capped at \$5,000 - new clients cannot trust assets worth more than \$5,000. Since we do not have a credit background of new clients, there exists a risk of not getting the performance fee paid properly. To minimize the possible losses, Grayrock will allow clients to trust more assets once they meet the conditions for the next tiers. Tier classification is as follows.

Tier	Asset Cap	Payments
0	≤ \$5,000	
1	\$5,000 < ≤ \$20,000	4 consecutive payments (2 months)
2	\$20,000 < ≤ \$50,000	8 consecutive payments (4 months)
3	\$50,000 < ≤ \$100,000	12 consecutive payments (6 months)
4	\$100,000 < ≤ \$200,000	16 consecutive payments (8 months)
5	\$200,000 < ≤ \$300,000	20 consecutive payments (10 months)
6	\$300,000 ≤	

Why do we have a biweekly maturity? When the maturity is longer, the possibility of clients not paying the performance fees increases. However, shorter maturities decrease the possibility of developers not getting paid, and even if they are not paid, the losses are minimal. Additionally, it is also easier for us to track and monitor whether clients pay the fees properly.

We also understand that, to some individuals wishing to invest more than \$5,000, an initial asset cap might be an inconvenience. In such cases, clients can deploy however much they would like to

Tokenomics

Tier	Asset Cap	Payments	Priorities
0	$\leq \$5,000$		7
1	$\$5,000 < \leq \$20,000$	4 consecutive payments (2 months)	6
2	$\$20,000 < \leq \$50,000$	8 consecutive payments (4 months)	5
3	$\$50,000 < \leq \$100,000$	12 consecutive payments (6 months)	4
4	$\$100,000 < \leq \$200,000$	16 consecutive payments (8 months)	3
5	$\$200,000 < \leq \$300,000$	20 consecutive payments (10 months)	2
6	$\$300,000 \leq$		1

if they pay the estimated performance fee upfront. Estimated performance fees are calculated based on past records; if actual performance fees are lower than prepaid amount, the difference will be subtracted from the future performance fee should clients wish to redeploy, or will be given back to clients in case they want to stop running bots.

bots cannot take in all the clients.

In cases where bots can take in only limited numbers of clients, Gray token holders will be prioritized over the non-holders; amid the holders, high-tier holders will have higher priorities than low-tier holders. The tier structure is the same with the level system.

4. Priorities in bot selection

Grayrock acknowledges that different bots employ different strategies. Some might swing trade, others might scalp, and the others could simply buy and hold. Depending on strategies, some bots might cap themselves below certain asset size as increase in AUM beyond a certain level could deter efficient trades. Followingly, smallcap bots can offer higher returns based on flexible positions, albeit in a limited asset size. Large cap bots, in contrast, are relatively more stable, liquid, and risk-adjusted than smallcap bots are. Nevertheless, because of the asset size, the former cannot trade as efficiently as light-sized bots do. As such, different bots can have different caps, and such caps will inevitably bring a situation where

GRAY Token Distribution

Initial supply: 200,000,000 GRAY	Company Treasury: 15%
Token Sale: 40%	Reserves: 10%
	Team: 10%
	Advisory Board: 5%

