Gate Research

Bull Market Wealth Engine

An In-Depth Look at the Memecoin Trading Bot Sector and Its Future Prospects

Abstract

- During the 2023–2025 bull market, meme coins dominated the crypto narrative, with market capitalization soaring from $15.3 billion in mid-2023 to $97.7 billion by early 2025. Platforms like Pump.fun lowered the barrier to token issuance, fueling the meme frenzy.
- Meme trading bots emerged as essential tools for navigating high volatility, enhancing efficiency and returns through automated token launches, sniping, and limit orders.
- The evolution of meme trading bots has been clear—from Bancor-inspired protocols to standardized tools like Hummingbot, eventually transforming Telegram and NFT sniping tools into advanced meme bots.
- Top products such as Trojan, GMGN, and DeBot quickly rose to dominance, capturing significant market share. Trojan recorded $21 billion in trading volume, GMGN emphasized data analytics and address labeling, and DeBot integrated AI-driven signals to enhance strategic intelligence.
- Telegram and Twitter became critical ecosystems for meme bots. Chill enabled direct trading within Twitter, while Lootbot plans to integrate Twitter command-based trading, reducing response time and transaction costs.
- The market showed a strong concentration effect, with the top five bots accounting for over 80% of trading volume. User interface familiarity, high data migration costs, and referral incentives contributed to this dominance.
- Meme trading bots demonstrated impressive profitability. Trojan generated $170 million in fee revenue, and GMGN's low-cost, high-revenue model delivered attractive ROI, drawing in numerous developers.
- Security remains a major concern, with risks including centralized wallet vulnerabilities, phishing attacks, and inadequate audits. Projects like Trojan and Banana Gun have introduced security audits, but advancing non-custodial models and improving user education are critical for future growth.
- Future Directions: AI-powered trading to boost adaptability, embedded liquidity via AMM integration for stable market-making, user experience optimization with chain, account, and gas abstraction, and enhanced security to balance automation with trust.

- Conclusion: Meme trading bots have become the “wealth engines”of the crypto bull market and will continue evolving through AI integration, security improvements, and ecosystem collaboration, driving the industry into a new growth phase.

Gate Research: Bull Market Wealth Engine –An In-Depth Look at the Memecoin Trading Bot Sector and Its Future Prospects

1 Preface

From 2023 to early 2025, the cryptocurrency market experienced an unprecedented boom cycle. Bitcoin surged from a low of $16,217 in 2022 (approximately 108,000 RMB) to $106,030 in January 2025 (approximately 750,000 RMB), marking an astounding 590% increase[1].

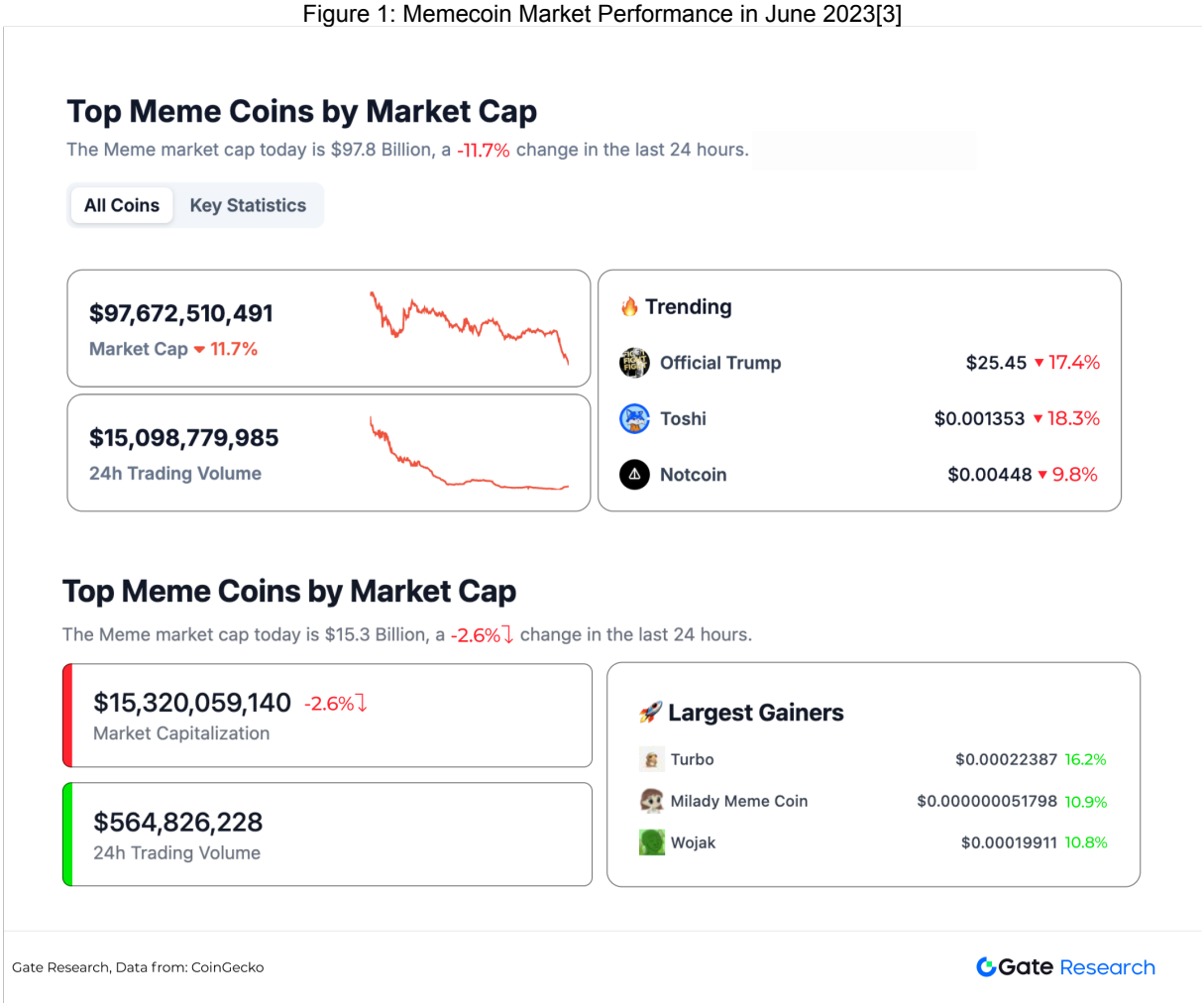
At the same time, according to statistics from Coingecko, an average of 5,300 new tokens were added daily in 2024. By April 2024, the total number of cryptocurrencies had surpassed 2.52 million, a 5.7x increase from the 440,000 tokens at the end of 2021 (when the previous bull market concluded)[2]. Behind this explosive growth, the core narrative of this bull run revolved around ”memes” (Meme).

In May 2023, the Memecoin frenzy triggered a surge in token issuance, setting a record with 104,118 new tokens created in a single month. With the launch of platforms like Pump.fun, the barriers to token issuance were significantly lowered, and on-chain trading costs dropped substantially. This led to a record-breaking 134,647 tokens issued in February 2024 and 195,735 tokens in March 2024.

Meanwhile, according to WayBackMachine’s tracking of Coingecko’s Memecoin category snapshots, the total Memecoin market capitalization was approximately $15.3 billion on June 27, 2023. By January 27, 2025, this figure had soared to $97.7 billion. Given the limited scope of tokens listed on major platforms, the actual market value of Memecoins is likely far higher than this estimate.

The meteoric rise of Memecoins not only fueled the overall expansion of the crypto industry and gave birth to a new emerging opportunity—Memecoin Trading Bots.

Figure 1: Memecoin Market Performance in June 2023[3]



In the dynamic ecosystem of the cryptocurrency market, Memecoins have attracted significant investor attention due to their viral nature and high return potential. Especially during bull markets, social media hype and the fear of missing out (FOMO) drive extreme price fluctuations. As automated trading tools, Memecoin trading bots efficiently capture market opportunities, providing traders with a competitive edge. This report will delve into the development trajectory of Memecoin trading bots, the current market landscape, and future trends.

2 From Inception to Prosperity: The Evolution of Memecoin Trading Bots

Memecoin trading bots are a type of DEX trading bot primarily designed for trading Memecoins, tailored to the high volatility of the Memecoin market. Their growth is closely tied to the rise of decentralized exchanges (DEXs). DEXs, with their low-cost deployment and no-KYC (Know Your Customer) requirements, provide a broad liquidity base for Memecoins. The core value

of Memecoin trading bots lies in leveraging technology to automatically analyze market data, optimize smart contract execution costs, and rapidly execute buy and sell orders. By doing so, these bots help users seize short-lived trading opportunities and enhance investment returns.

Tracing the technological development of Memecoin trading bots, their origins can be linked back to the launch of the Bancor trading protocol in 2017.

2.1 Early Exploration: Bancor and the Prototype of Automated Trading

In June 2017, the Bancor Network launched its Alpha version, introducing smart contract-based automated trading functionality. Its core technology relied on the Automated Market Maker (AMM) protocol, enabling users to complete token trades directly with smart contracts. As a result, Bancor is regarded as the first AMM-based DEX. However, Bancor’ s automation was limited to the protocol level, and users could not customize their trading strategies. Therefore, in the strictest sense, it was not an independent trading bot.

2.2 The Rise of DEXs and Script-Based Trading Tools

After Uniswap launched in November 2018, the DEX ecosystem rapidly expanded, driving demand for automated trading tools among developers and traders. Some early pioneers began using Python or JavaScript to write simple scripts that interacted with Ethereum nodes for arbitrage or token trading. For example, by 2018, open-source arbitrage scripts that leveraged AMM mechanisms for frontrunning trades had already appeared on GitHub. However, due to their lack of standardization and limited support, these tools remained niche and were not widely adopted.

2.3 Hummingbot: A Milestone in Trading Bots

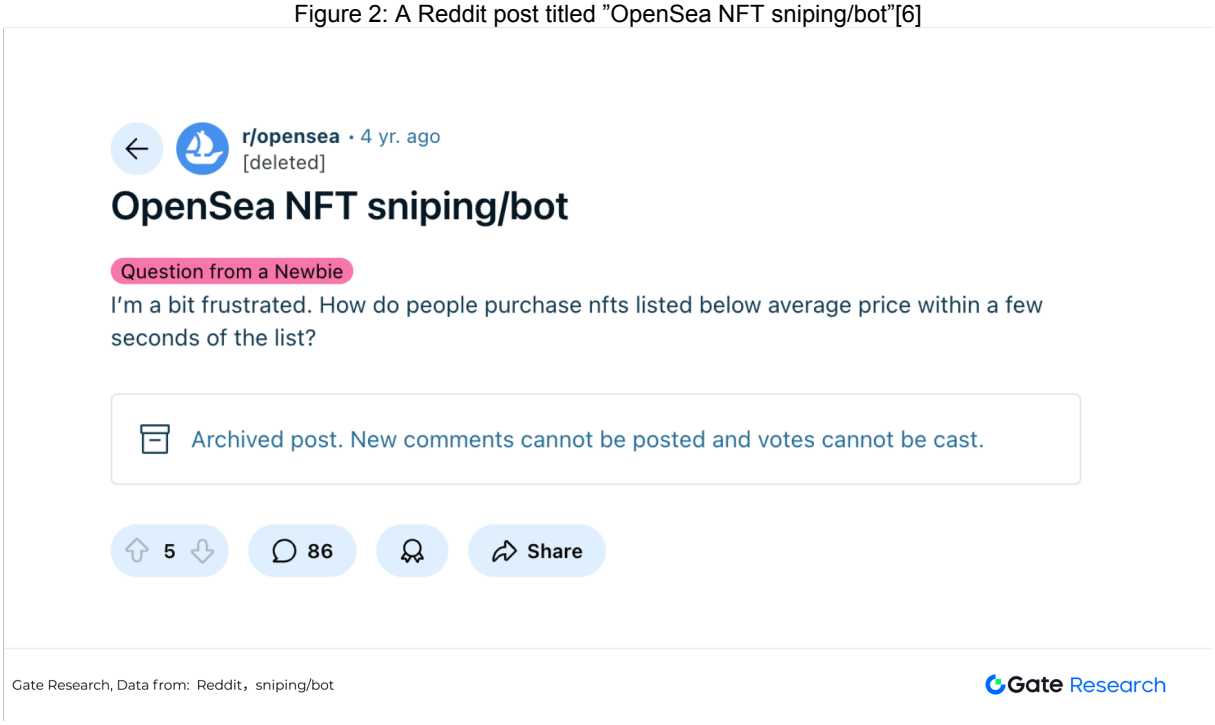
The first true DEX trading bot emerged in April 2019 with the release of Hummingbot, an open-source project developed by CoinAlpha[4]. This tool supported market making, arbitrage, and multi-exchange trading, offering high-frequency trading capabilities and customizable strategies. It catered to individual traders, professional quant teams, and projects seeking to enhance liquidity. The launch of Hummingbot not only validated the profitability of automated trading in the crypto market but also paved the way for Memecoin trading bots by providing both technical feasibility and conceptual inspiration.

2.4 Lessons from NFT Trading Bots

The direct inspiration for Memecoin trading bots came from NFT trading bots. NFTs and Memecoins share similar market dynamics and narratives—both rely on the story behind the token, the credibility of the issuer, and community hype. Achieving high returns often requires early participation at launch, sometimes through sniping (buying immediately upon release) and selling at peak prices.

Because both NFTs and Memecoins have extremely short life cycles—sometimes lasting only a few minutes—manual monitoring and execution are often impractical, leading to the emergence of trading bots. For instance, on September 28, 2021, a Reddit post titled ”OpenSea NFT sniping/bot” discussed how to purchase newly listed NFTs on OpenSea within seconds at prices below the average market rate[5]. This reflected the market’s growing demand for automation tools.

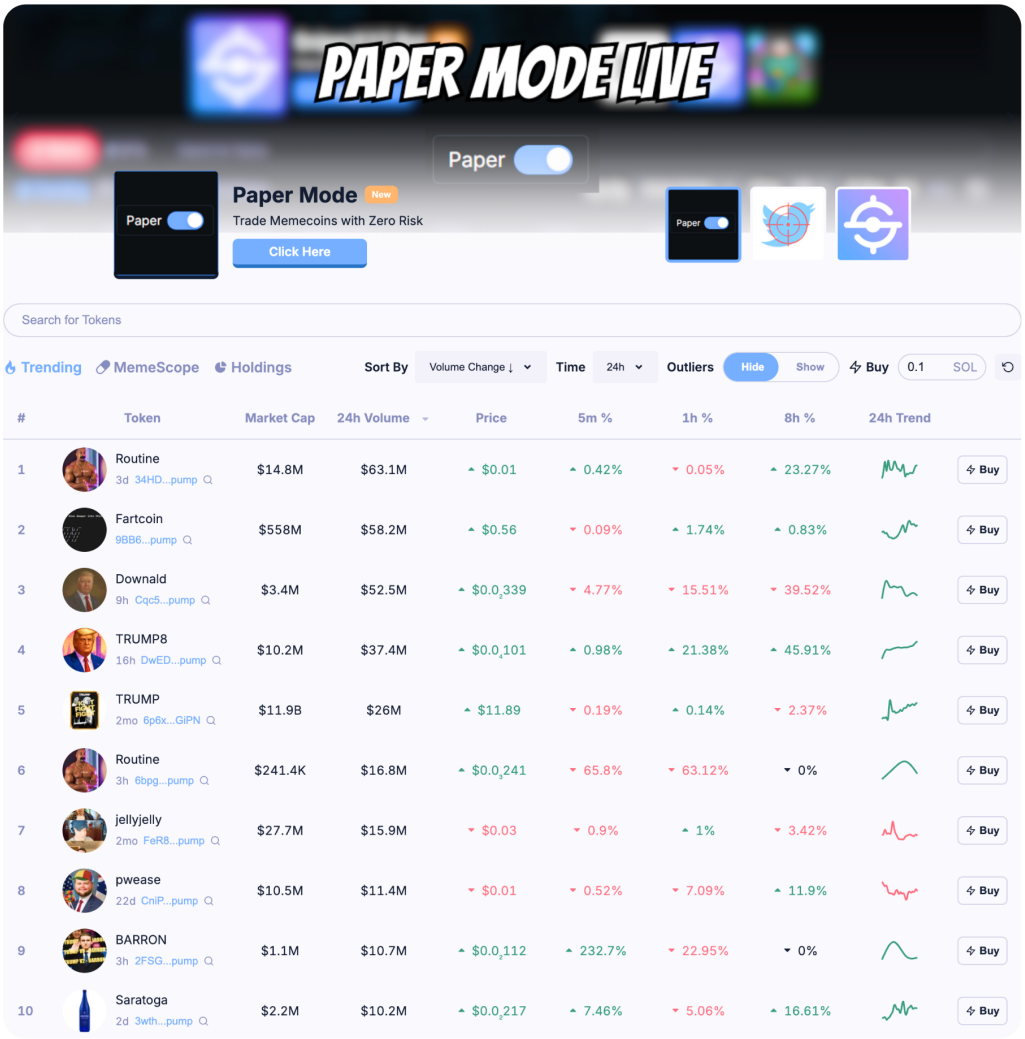
Figure 2: A Reddit post titled ”OpenSea NFT sniping/bot”[6]



One of the most notable projects from this phase is SolSniper. Launched in 2021, it initially functioned as an NFT trading terminal, helping users identify and snipe trending NFTs as soon as they were listed. While SolSniper still retains its NFT trading module, it has since shifted its focus to Memecoins in response to the rising demand in the sector.

Another well-known Memecoin trading bot, GMGN, also started with an NFT-focused product called NFT Track[7]. Like SolSniper, GMGN originally aimed to help users snipe newly listed NFTs. The evolution of these products reflects the changing needs of the market.

Figure 3: SolSniper Website[8]



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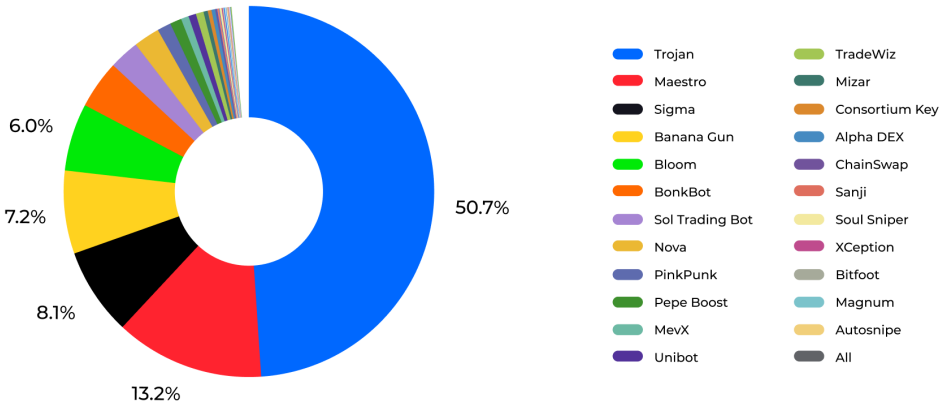
2.5 Telegram Ecosystem and the Rise of Modern Memecoin Trading Bots

As global crypto regulations tightened, Telegram emerged as a core hub for the digital asset community due to its high accessibility, open social environment, and robust API support. This made Telegram an ideal platform for the migration and evolution of trading tools.

In October 2021, the Telegram bot Catchy was introduced. Initially, it allowed users to monitor token price movements on Ethereum and BNB Chain, as well as track wallet activity to identify sniping opportunities. However, due to a lack of visibility, its token presale was postponed due to insufficient participation.

In August 2022, Catchy rebranded as Maestro and launched its sniping feature, which significantly improved its adoption. According to Dune Analytics, as of February 24, 2025, Maestro ranks as the second-largest Memecoin trading bot by short-term trading volume, underscoring Telegram’ s crucial role in developing automated trading bots.

Figure 4: Dune Analytics Dashboard on Memecoin Trading Bots –7-Day Trading Volume[9]



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From the early experimentation with Bancor to the standardization breakthroughs of Hummingbot, followed by the synergies between NFT sniping and the Telegram ecosystem, the development trajectory of Memecoin trading bots illustrates the intertwined evolution of technological advancements and market demands.

This iterative progress has enabled greater flexibility and adaptability in automated trading, which found its niche within the Memecoin boom and contributed to the formation of today’ s complex and thriving market ecosystem.

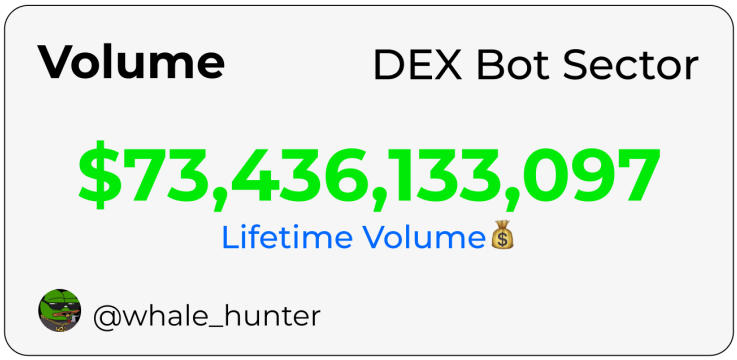
3 Market Landscape and Competitive Dynamics: The Rise of Memecoin Trading Bots

3.1 Current Market Overview

The rapid emergence of Memecoin trading bots has become a notable highlight within the cryptocurrency ecosystem. According to data from the widely followed DEX Trading Bot Wars dashboard on Dune Analytics[10], as of February 24, 2025, the dashboard had recorded 45 decentralized exchange (DEX) trading bots, accumulating 1,647 bookmarks—a strong indicator of deep industry interest in this sector.

Further data analysis reveals that, as of the same date, DEX trading bots had facilitated approximately $73.4 billion in trading volume, with over 4 million users. This scale is already significant within the crypto industry, highlighting the strong and growing demand for automated trading solutions in the Memecoin market.

Figure 5: Dune Analytics Dashboard on Memecoin Trading Bots –Total Trading Volume[11]



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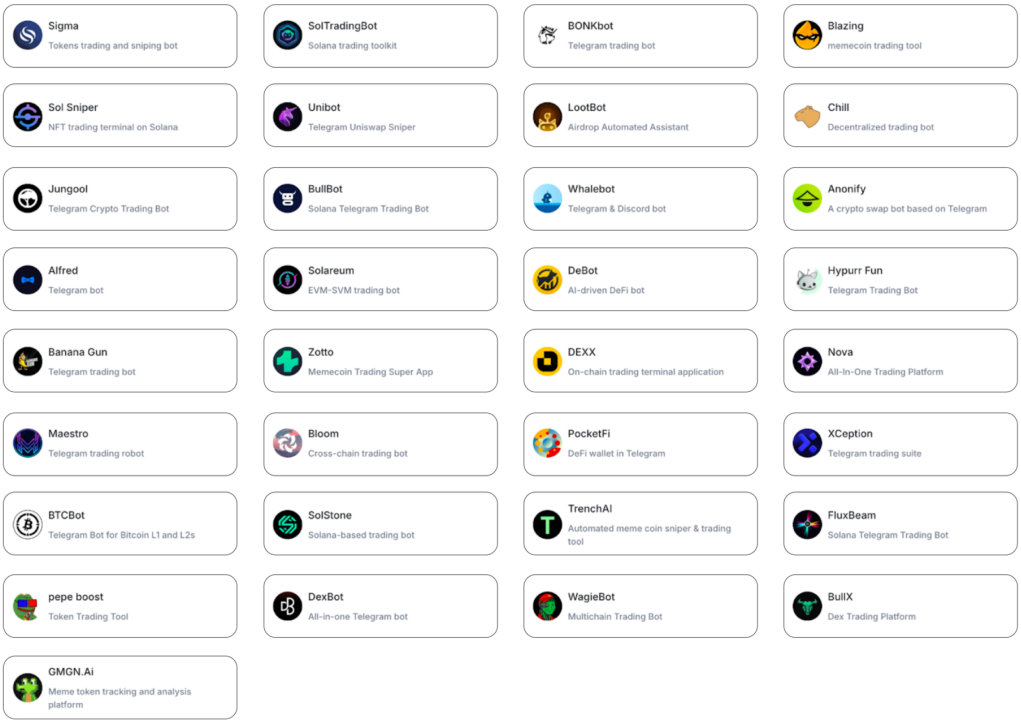
A deeper analysis of RootData's Memecoin Trading Bot project collection, which tracks over 30 active Memecoin trading bots, further illustrates this rapid evolution[12]. Most of these bots were launched between 2023 and 2024, aligning closely with the peak of the Memecoin frenzy. This suggests that the rise of Memecoin trading bots is directly correlated with the increasing market demand for efficient and automated trading tools.

The speed of growth in this sector is remarkable—within just two to three years, Memecoin trading bots have scaled from early-stage startups to handling over $70 billion in trading volume. These bots have not only addressed the inefficiencies of traditional trading methods but have also reshaped the competitive landscape of the DEX ecosystem through automation and high-frequency trading capabilities.

Figure 6: RootData’ s Overview of Memecoin Trading Bot Projects[13]



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The rapid expansion of the Memecoin trading bot market is not only reflected in the significant growth in trading volume and the reshaping of the competitive landscape but also in the emergence of diverse bot products with unique functionalities designed to meet the varied needs of traders.

As the previous market analysis indicates, trading bots have evolved from marginal tools to a core component of the DEX ecosystem within a short period. Their growth trajectory closely follows the fluctuations of the Memecoin boom. Against this backdrop, a detailed examination of leading Memecoin trading bots can highlight their technological advantages and practical use cases, providing traders with data-driven decision-making insights.

The following sections introduce some of the most prominent Memecoin trading bots, including

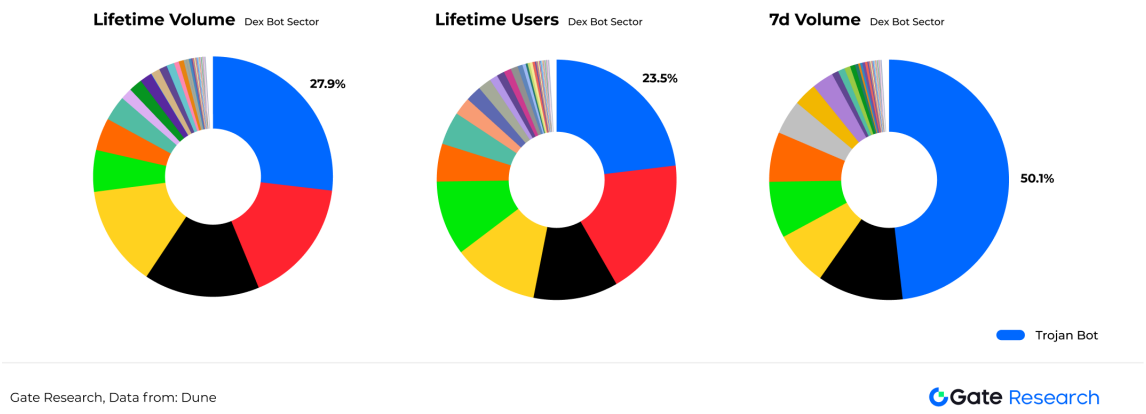
Trojan, GMGN, DeBot, Banana Gun, Chill, and Loot Bot. We aim to uncover their unique value propositions within the current ecosystem by analyzing their core functionalities and market positioning.

3.2 Trojan Bot

According to Dune Analytics' DEX Trading Bot Wars dashboard, as of February 24, 2025, Trojan Bot ranks first in total trading volume, with a recorded $20.7 billion in cumulative trades, accounting for 27.9% of the overall market.

Additionally, Trojan Bot maintains a dominant market position in short-term trading activity. Over the past seven days, it has processed $240 million in trading volume, making up 50.1% of the weekly market share. With a total user base nearing 1 million and a market share of 23.5%, Trojan Bot stands as a key leader in the Memecoin trading bot sector.

Figure 7: Dune Analytics Dashboard on Memecoin Trading Bots[14]



Trojan Bot originated from Unibot on Solana and was developed by @Reethmos (X username), the former community operations lead of Unibot[15]. As a derivative product of Unibot, Trojan Bot benefits from continuous security audits conducted by Trail of Bits, a well-known cybersecurity auditing firm. This commitment to security and reliability has helped Trojan Bot establish a high level of trust in the market.

Currently, Trojan Bot operates exclusively on Telegram, featuring a clean and intuitive interface. Users only need to input the smart contract address (CA) of the target token in the chat-based UI to execute buy or sell orders. The bot supports a variety of trading functions, including:

- Limit Orders

– Dollar-Cost Averaging (DCA) Orders

– Copy Trading

– Sniping

– Trenched (Batch) Trading

These features offer high flexibility and customization, catering to the needs of both retail and retail traTrojan Bot’s referral program, which adds a unique economic layer to its business model. The platform charges a 1% transaction fee, but referring new users grants a lifetime 10% discount (reducing the fee to 0.9%).

Additionally, referrers can earn a percentage of transaction fees from invited users:

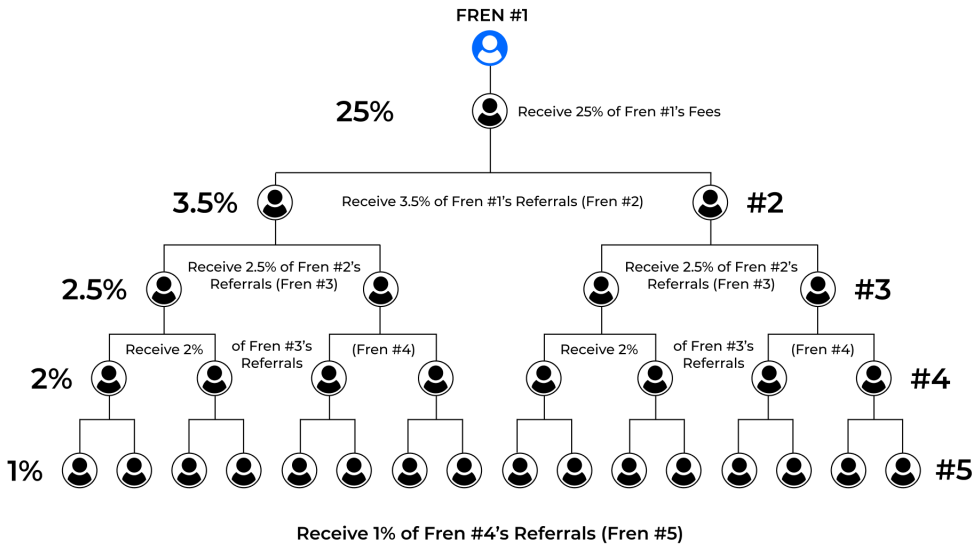
– First-level referrals receive 25% of transaction fees.

– Second to fifth-level referrals receive 3.5%, 2.5%, 2%, and 1%, respectively.

This multi-level referral system incentivizes users to promote the platform, creating a sustainable passive income model while accelerating Trojan’s user growth.

According to Trojan’s official website[16], as of February 24, 2025, the referral program has distributed a total of 343,817 SOL in rewards, significantly contributing to the platform’s expansion.

Figure 8: Trojan Referral Mechanism[17]



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In addition to its comprehensive trading features, Trojan Bot offers a cross-chain bridge between ETH and SOL, enabling Ethereum-based ETH holders to participate in Memecoin trading within the Solana ecosystem seamlessly. This functionality significantly enhances its market appeal, bridging liquidity across ecosystems and attracting a broader user base.

In summary, Trojan Bot has established itself as a market leader in the Memecoin trading bot sector, thanks to its:

- Simplified user experience
- Robust security measures
- Comprehensive trading functionalities

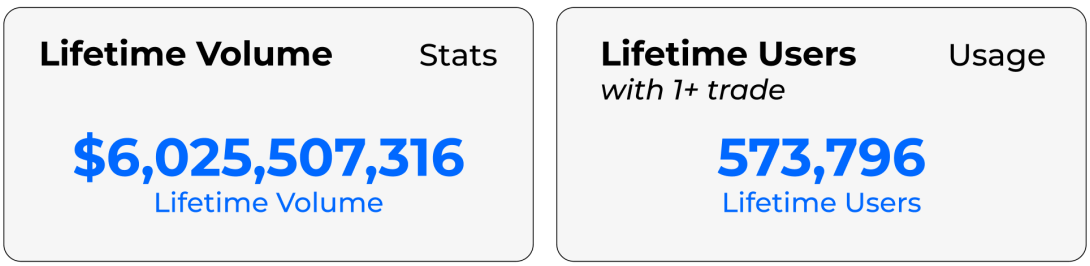
Despite its compact and streamlined design, Trojan provides a fully-featured trading solution, allowing it to maintain a top position in this highly competitive market.

3.3 GMGN

GMGN is regarded as one of the most compelling Memecoin trading bots despite not being listed on Dune Analytics' DEX Trading Bot Wars dashboard. However, data from another Dune dashboard, GMGN ai, which has accumulated 250 bookmarks[18], showcases its market traction.

As of February 24, 2025, GMGN has processed over $6 billion in total trading volume, with a user base approaching 600,000. These figures highlight its strong market presence and growing adoption.

Figure 9: Dune Analytics Dashboard on Memecoin Trading Bots[19]



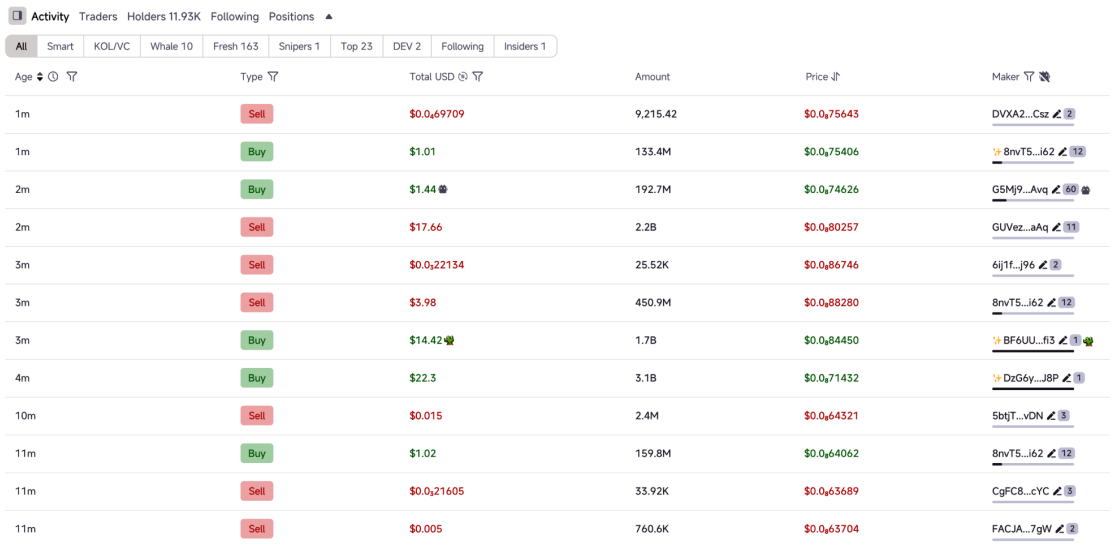
Gate Research, Data from: Dune

GMGN operates through Telegram-based registration and login but primarily relies on its web interface for trading operations. Compared to Trojan Bot, GMGN offers a more comprehensive and powerful feature set, supporting multiple blockchain networks, including Solana, Ethereum, Base, BSC, Tron, and Blast. This multi-chain compatibility gives GMGN a significant advantage, allowing users to seamlessly trade Memecoins across multiple ecosystems.

However, GMGN is more than just a trading platform—it also functions as a data analytics hub, providing traders with in-depth token insights, including smart money tracking, KOL/VC movements, whale transactions, new wallet activity, sniper bot operations, large holder movements, developer transactions, and insider trading detection. This extensive address-labeling system enables GMGN to deliver sophisticated on-chain analytics, helping users identify trading trends and profitable opportunities in real time.

Additionally, GMGN integrates token security monitoring, allowing users to assess key risk factors, such as rug pull detection, blacklist monitoring, liquidity burn analysis, and top 10 holder concentration. GMGN empowers traders to navigate the fast-evolving and volatile Memecoin market with confidence by providing a multi-dimensional evaluation of token safety and potential value.

Figure 10: Feature Overview of GMGN[20]



Gate Research, Data from: GMGN

GMGN’s sharp focus on data analytics addresses a core user need—actionable insights for trading decisions. Its product design revolves around enhancing trading efficiency, offering real-time, in-depth token data, address monitoring that allows users to track specific wallets and re-

ceive instant alerts when they initiate trades, and portfolio tracking that displays buy prices and profit/loss metrics, enabling traders to optimize their entry and exit strategies. This data-driven approach makes GMGN stand out in the competitive Memecoin trading bot landscape, offering traders unparalleled market intelligence.

Currently, GMGN generates revenue through a 1% transaction fee. However, in an interview, founder Jerry revealed that the team is exploring additional monetization strategies, such as customized services for project teams, advertising fees, and other diversified revenue streams[21].

Overall, GMGN's cross-chain support, data analytics capabilities, and user-friendly design make it a powerful tool for traders seeking precision in the volatile Memecoin market.

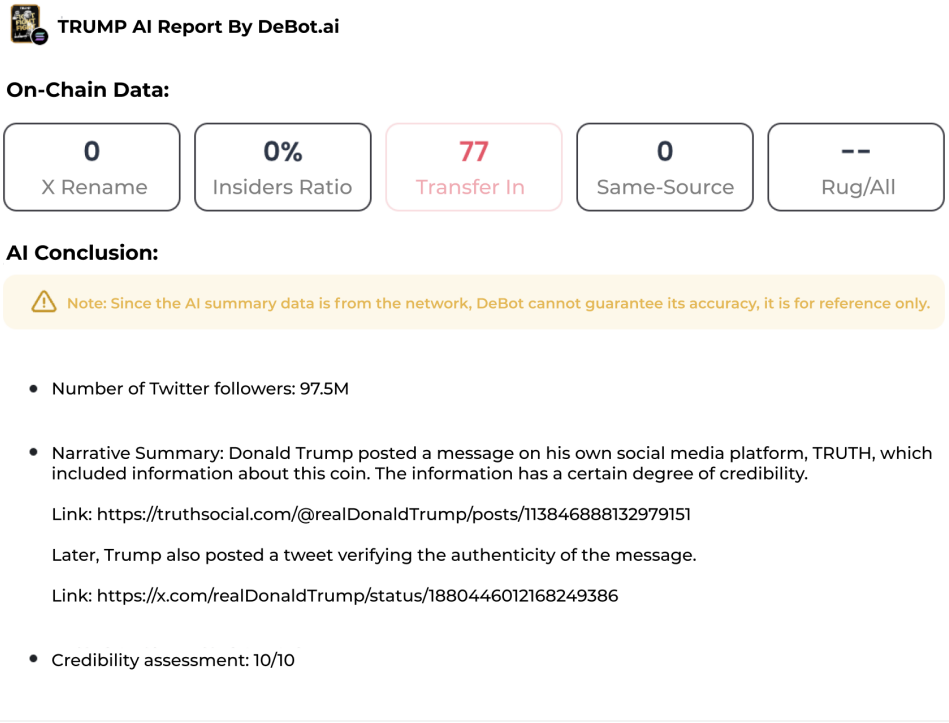
3.4 DeBot

Developed by the Diting Data team, DeBot is a comprehensive Memecoin trading bot that shares many similarities with GMGN in terms of trading functionalities, data analytics, and portfolio management. However, what sets DeBot apart is its integration of artificial intelligence (AI) to enhance signal detection and market monitoring, helping users assess token value and authenticity in the rapidly shifting Memecoin market.

DeBot's AI-powered reports analyze multiple factors, including Twitter follower count of project teams, account creation time, and narrative quality and consistency. By generating credibility reports with detailed justifications, DeBot provides decision-making support to traders.

Additionally, its AI monitoring system goes beyond standard on-chain address tracking by also supporting token monitoring and Twitter activity monitoring. This multi-dimensional intelligence helps users spot trending projects early and improves trading efficiency and precision.

Figure 11: DeBot AI Signal Feature[22]



Gate Research, Data from: Debot

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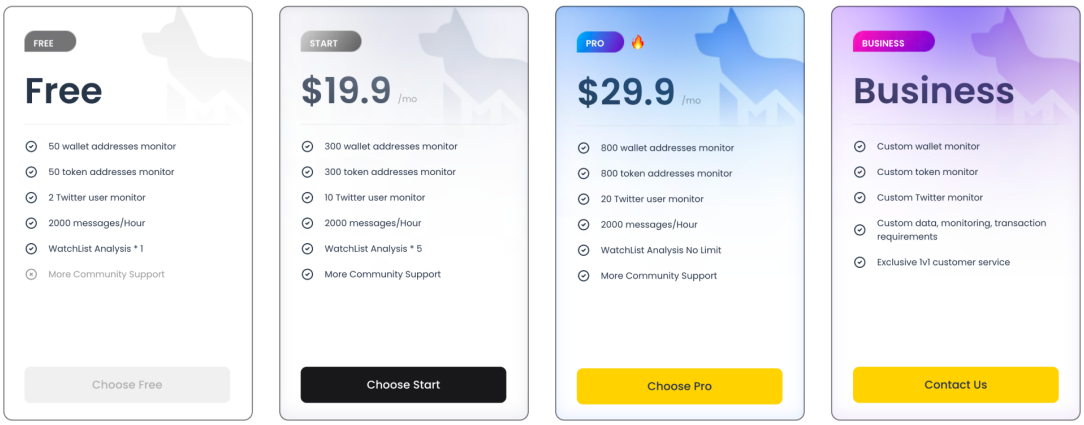
DeBot employs a dual monetization strategy. First, it charges a 1% transaction fee, similar to most Memecoin trading platforms. Second, it offers a SaaS (Software-as-a-Service) subscription model with four tiers: Free version, Start version, Pro version, and Custom version.

While all tiers provide core trading functionalities, higher-paid tiers offer expanded data monitoring capabilities, such as tracking more wallet addresses or token contracts. Importantly, these differences do not restrict basic trading operations but rather cater to professional users who require deeper market insights.

Figure 12: DeBot Pricing Model[23]



Gate Research, Data from: Debot

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3.5 Banana Gun

The previous section highlighted that Trojan Bot's product design prioritizes ease of use, while GMGN and DeBot focus on data analysis capabilities, which align with their backgrounds as data-driven products. In contrast, Banana Gun's initial product design was centered around protecting users from malicious activities, specifically targeting risks such as MEV bots, rug pulls, and sandwich attacks[24].

Given the highly time-sensitive nature of the memecoin market, buying a token immediately after its launch significantly increases the likelihood of high returns. Before the emergence of memecoin trading bots, sniping newly issued memecoins relied mainly on professional traders or technical experts who had to conduct in-depth analysis of token contracts, key functions, and restrictions. However, on-chain trading is also exposed to threats from malicious bots, such as MEV bots that manipulate transaction order to maximize their own profits at the expense of other users.

To address this challenge, the Banana Gun bot leverages innovative strategies and technologies to provide traders with a powerful tool for safeguarding themselves while pursuing profits in the complex and high-risk crypto market. One of its key features is Auto Sniping, which allows users to set up trades through a simple interface. The bot can then execute purchases instantly at launch while effectively avoiding interference from malicious on-chain bots.

Additionally, Banana Gun has issued its own token, $BANANA, which grants holders benefits

such as a share of trading fees, trading rewards, and exclusive perks. This tokenomics model further strengthens user engagement and incentivization on the platform.

In summary, Banana Gun's technological advantages in security and trading efficiency have secured it a significant position in the meme coin trading bot market, making it an ideal tool for mitigating high-frequency trading risks.

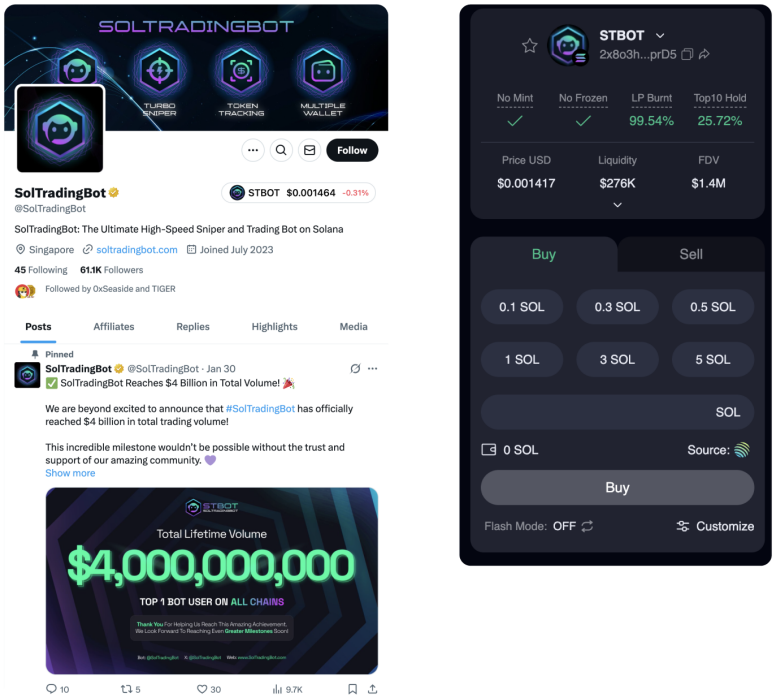
3.6 Chill

Unlike the aforementioned memecoin trading bots, Chill is neither a Telegram bot nor a web-based platform; instead, it operates as a Chrome extension[25]. Deep participants widely recognize Twitter as a crucial source of crypto-related information within the crypto community, especially for memecoins.

When users discover a target token's contract address (CA) on Twitter, they must copy and paste it into a Telegram bot or another trading platform to execute a trade. This process can take several minutes, and even this brief delay can determine the final profitability of a trade. Chill optimizes this user scenario by allowing transactions to be executed directly on Twitter after installing the extension, significantly improving trading efficiency and speed.

Despite being just a browser extension, Chill still offers features that enhance users' ability to evaluate projects. Similar to GMGN and DeBot, it supports token security monitoring, basic token information display, and K-line analysis, enabling users to make an initial assessment of a token's value. This functionality makes Chill a unique player in the memecoin trading bot sector, particularly well-suited for short-term traders within the Twitter ecosystem.

Figure 13: Chill Extension UI[26]



Gate Research, Data from: Chill

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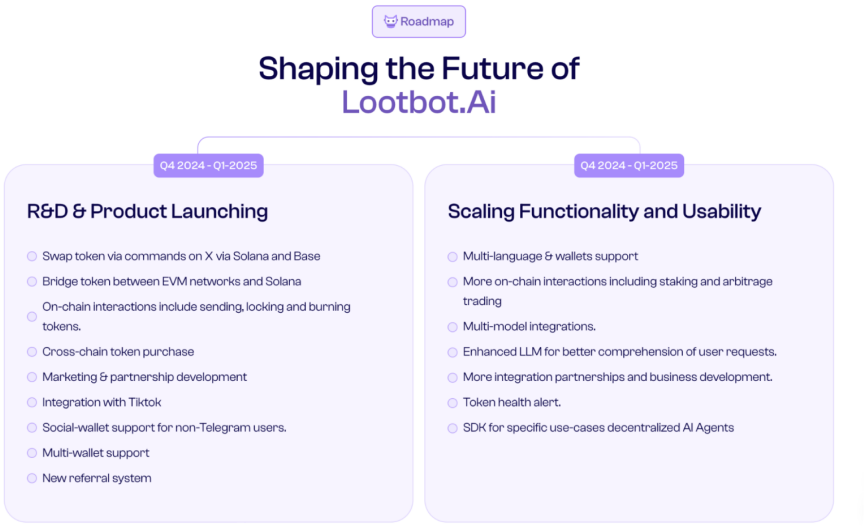
3.7 Lootbot

As previously discussed, Chill effectively caters to Twitter users' need for instant trading upon discovering new tokens. However, Lootbot takes a different approach to addressing this demand. According to its official description, Lootbot allows users to purchase tokens directly via Twitter commands[27]. More specifically, it aims to transition the traditional Telegram bot model into a Twitter bot model.

However, as of February 24, 2025, Lootbot is still operating as a basic Telegram bot. According to its official roadmap, the Twitter bot functionality is expected to launch in Q1 2025, marking a significant upgrade that will further expand its potential in social media-based trading.

Figure 14: Lootbot Official Feature Overview[28]



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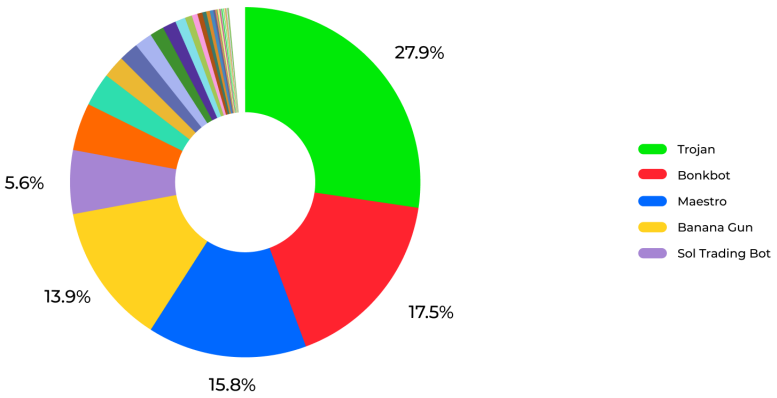
3.8 Competitive Landscape

An analysis of overall market data and key projects in the meme coin trading bot sector reveals clear dominance by leading players and intense competition. According to the DEX Trading Bot data dashboard, as of February 24, 2025, the top five trading bots (Trojan, Bonkbot, Maestro, Banana Gun, and Sol Trading Bot) accounted for 80.7% of the market, while the remaining 40 bots collectively held less than 20%, demonstrating a strong Matthew effect.

Figure 15: Dune Dashboard on Memecoin Trading Bots - Trading Volume Distribution[29]



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Several factors contribute to this high market concentration. First, users develop habits around specific platforms' interfaces and workflows. For instance, Trojan offers a highly simplified trading process, making it easier for users to stick with the platform rather than switch to new alternatives, especially if those alternatives have a more complex interface or different operational flow.

Second, the cost of migrating data assets and historical records is high. In the memecoin trading bot market, features such as on-chain address labeling in GMGN and AI-powered reports in De-Bot, along with wallet portfolio management tools that track purchase costs and returns, have become critical to user decision-making. Users' accumulated trading data, address monitoring settings, and investment strategies are often deeply tied to a specific platform. Switching to a new platform would require them to rebuild their data foundation and adapt to new analytical tools, increasing both time and cognitive costs. Given the high-frequency trading environment of the memecoin market, such disruptions can be a major deterrent.

Furthermore, economic incentives reinforce user loyalty. For example, Trojan Bot offers a referral program where trading fees are reduced from 1% to 0.9%, with multi-level referral rewards of up to 35%, encouraging long-term platform engagement. Similarly, Banana Gun's tokenomics model—offering trading rewards and revenue sharing via its $BANANA token—creates additional incentives for users to remain active. Switching to a new platform would mean losing these financial benefits or requiring additional investment in new platform tokens, significantly increasing switching costs.

To capture market share in the highly competitive memecoin trading bot sector, emerging products such as Chill, Lootbot, and Zotto must strategically optimize their offerings based on current market dynamics, user behavior, and competitive barriers. Overcoming the ecosystem lock-in effect of leading players like Trojan Bot and GMGN while meeting demand for high-efficiency, secure, and intelligent trading will be key. For instance, Chill and Lootbot focus on optimizing transaction workflows by addressing a major inefficiency in traditional bots—where users must manually copy and paste contract addresses (CA) from Twitter into Telegram or other platforms to execute trades. Their solutions allow transactions to be completed directly on X (Twitter).

According to user feedback, Chill, as a Chrome extension, has already enabled direct trading on Twitter, significantly reducing platform-switching time. In the highly time-sensitive memecoin market—where just a few minutes can determine profitability—this improvement could attract users who rely heavily on Twitter for real-time market insights. Lootbot, set to launch its Twitter bot functionality in Q1 2025, will also enable direct trading through special commands, further reducing delays and increasing efficiency.

Additionally, Zotto introduces a meme launchpad that creates an end-to-end trading ecosystem, allowing users to discover and trade new memecoins within a single platform. This model is similar to pump.fun, enabling users to participate in early-stage token launches and potentially secure high returns. Such a feature could serve as a key differentiator to attract early investors.

Other strategies for differentiation include enhancing AI-driven trading signals, such as DeBot's AI reports, which analyze project team Twitter followers, account creation date, and other key metrics. Personalized trading strategies, such as adaptive recommendations based on users' trading history, could also set new platforms apart from existing competitors, who primarily offer standardized features.

Overall, the memecoin trading market is highly competitive. New projects aiming to gain market share must find unique entry points, enhance transaction efficiency, lower barriers to entry, and, most importantly, ensure the security of user assets.

Name	Total Trading Volume ($)	Total Users	Supported Platforms	Features
Trojan Bot	21,081,560,632	1,018,673	Telegram	Simple operation with full functionality, meeting most users' needs; security audited.
GMGN	6,108,014,944	588,466	Web & Telegram	Supports token information, security data, blue-chip index, and extensive address labels for whales, KOLs, and snipers. Also includes address monitoring and alerts.
DeBot	Not disclosed	Not disclosed	Web, Telegram & App	AI signals and AI monitoring, especially Twitter monitoring, assisting users in trading decisions.
Banana Gun	10,374,806,262	438,269	Telegram	Primarily used for "sniping," allowing users to buy tokens instantly.
Chill	Not disclosed	Not disclosed	Chrome Extension	Enables users to purchase tokens directly on Twitter, improving trading efficiency.
Lootbot	71,720,474	112,896	Currently Telegram; future support for Twitter bot planned	Future Twitter bot integration will allow users to buy tokens directly via Twitter commands, enhancing trading efficiency.

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3.9 Security Concerns

Memecoin trading bots are typically integrated into Telegram or web-based platforms. Most of these bots adopt a centralized wallet design to enhance user convenience, facilitate automated trading, and improve transaction efficiency. This setup consolidates user funds within the platform's wallet, resembling the structure of centralized exchanges (CEX). However, if a platform lacks adequate security measures, it becomes highly vulnerable to hacking attacks, placing stringent demands on the team's expertise and technical capabilities.

Despite these risks, most meme coin trading bot teams operate as small workshops, often developing their products without undergoing security audits by independent firms. This lack of rigorous security assessment presents significant vulnerabilities.

The industry has witnessed multiple security incidents. On October 31, 2023, the DEX trading bot Unibot on Solana was hacked due to a smart contract vulnerability, resulting in approximately $600,000 in losses[34]. In September 2024, Banana Gun suffered a hacking attack, leading to a loss of around $3,000,000, likely due to wallet or frontend security flaws[35]. Just two months later, on November 16, 2024, DEXX experienced a catastrophic breach when the platform leaked users' private keys, causing $21 million in losses[36]. This incident further highlighted the inherent fragility of centralized wallet models[37]. These attacks underscore the systemic risks associated with centralized custody trading bots—once a platform is compromised, users' assets are directly at risk.

Additionally, the time-sensitive nature of the memecoin market often leads users to overlook security risks during trading, making them prime targets for phishing attacks. Phishing sites and phishing links pose a persistent threat. For instance, hackers have created fake Telegram bots that closely resemble well-known platforms such as Trojan Bot and GMGN, tricking users into authorizing malicious smart contracts, which ultimately drain their funds. Other attacks involve DNS hijacking, where users attempting to visit legitimate trading bot websites are redirected to counterfeit pages that prompt them to enter their private keys.

For web-based trading, hackers may also exploit frontend code manipulation to deceive users into unknowingly transferring their assets to attacker-controlled addresses when signing transactions. Given the limited development resources of many memecoin trading bot projects, the technical barrier for executing such attacks is relatively low, making them an attractive and cost-effective method for cybercriminals. As a result, security incidents in this space remain alarmingly frequent.

4 Enhancing Security and Market Trust

To strengthen market trust, some memecoin trading bots have begun implementing security enhancements. For example, Trojan Bot undergoes continuous security audits by Trail of Bits, a well-known cybersecurity firm. This ongoing audit process has significantly improved its credibility among users and has been a key factor in its dominance in the market.

Moving forward, the industry needs to adopt non-custodial models, independent security audits, and user education to mitigate the risks associated with centralized designs and boost user confidence.

In terms of non-custodial models, trading bots could integrate self-custody wallets such as MetaMask or Phantom, reducing the platform’ s control over users’ private keys. Additionally, adopting account abstraction (AA) and smart contract wallets would further enhance security.

Regarding independent security audits, trading bot teams should be required to undergo third-party code reviews from firms such as Trail of Bits, CertiK, or Quantstamp. Implementing bug bounty programs would also encourage ethical hackers to identify and report vulnerabilities before they can be exploited.

For user education, platforms could enforce explicit authorization confirmations within trading interfaces to prevent users from unknowingly approving malicious contracts. AI-powered monitoring systems could be deployed on Telegram and web platforms to detect phishing bots and fraudulent links in real time. Additionally, platforms could introduce security guides to help users identify phishing attempts and organize community initiatives to raise awareness about trading security.

Overall, while the memecoin trading bot market is still in a rapid growth phase, security concerns have become a critical barrier to sustainable industry expansion. The primary security risks include centralized wallet vulnerabilities, lack of independent security audits, and the prevalence of phishing attacks. Addressing these issues requires decentralizing trading models, strengthening code security, and fostering user awareness to ensure the long-term stability of the memecoin trading ecosystem.

As the memecoin market continues to expand, security will become a decisive factor in shaping the competitive landscape of trading bots. Projects that proactively enhance their security frameworks will gain a significant competitive edge and earn greater user trust in the long run.

Figure 16: DefiLlama Rankings and Revenue Distribution of Protocol Fee Sharing[41]

Name	Chains	Category	Revenue(24h)	Revenue(7d)	Holders Revenue(7d)	Fees(30d)	Revenue(30d)
1 BullX		Telegram Bot	$358,470	$1.86m		$21.98m	$21.98m
2 Trojan		Telegram Bot	$187,493	$1.13m		$10.44m	$10.44m
3 GMGN		Telegram Bot	$101,765	$817,068		$8.14m	$8.14m
4 BONKbot		Telegram Bot	$145,420	$882,603		$8.05m	$8.05m
5 Maestro	+3	Telegram Bot	$52,531	$411,345		$7.27m	$7.27m
6 MEVX		Telegram Bot	$67,305	$401,295		$4.2m	$4.2m
7 SolTradingBot		Telegram Bot	$19,391	$477,764		$4.05m	$4.05m
8 Banana Gun		Telegram Bot	$995,746	$1.14m		$3.16m	$3.16m
9 RayBot		Telegram Bot	$9,038	$55,112		$452,949	$452,949
10 Blazing Bot	+4	Telegram Bot	$476	$8,146		$369,599	$369,599
11 Unibot		Telegram Bot	$614	$4,633		$36,754	$36,754
12 Falcon Bot		Telegram Bot				$1,608	
13 PAAL AI		Telegram Bot				$-243,495	
14 Aimbot		Telegram Bot					
15 BlazeBot		Telegram Bot					

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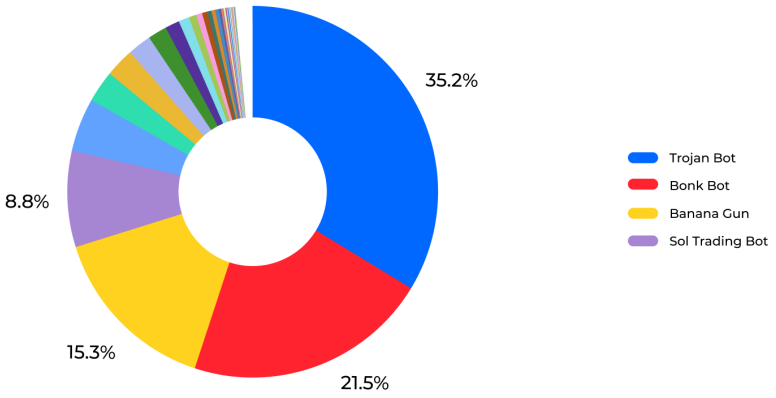
Figure 17: Dune Dashboard on Memecoin Trading Bot Transaction Fees[42]



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Compared to traditional centralized exchanges (CEX), memecoin trading bots have significant advantages. They do not require large teams, complex marketing strategies, or expensive advertising budgets. Instead, they rely on lightweight development and ecosystem integration strategies to achieve high efficiency. For example, many bots collaborate with key opinion leaders (KOLs) to implement attractive referral commission models. Trojan Bot, for instance, offers a multi-level referral system with commissions of up to 35%, significantly reducing operational

costs.

According to an interview with GMGN founder Jerry, his team consists of only about 20 members, and their monthly data storage costs amount to approximately $100,000[43]. However, according to Dune’ s GMGN AI dashboard, as of February 24, 2025, GMGN had accumulated nearly $60 million in transaction fee revenue, despite being in operation for less than two years[44]. This exceptionally high return on investment (ROI) has fueled the rapid expansion of the memecoin trading bot market, attracting numerous development teams and driving continuous product innovation, further intensifying market competition.

Figure 18: Dune Dashboard on GMGN Transaction Fee Revenue[45]

Gate Research, Data from: Dune

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Additionally, the low-cost operational model of memecoin trading bots is closely tied to their lightweight design. Unlike traditional exchanges, which require thousands of employees and billions of dollars in infrastructure investment, memecoin trading bots leverage automated algorithms and community-driven growth to reduce labor costs and marketing expenses. By utilizing the network effects of platforms such as Telegram and Twitter, these bots can rapidly establish user communities and scale their user base without high marketing expenditures. This approach enhances platform profitability while solidifying the role of memecoin trading bots as a core driving force behind the growth of the memecoin economy during bull markets.

Memecoin trading bots have also generated substantial profits for users. In January 2024, a trader used Banana Gun to snipe SAVM tokens at launch, securing a profit of $6.77 million. The second address to purchase SAVM also achieved significant gains, earning $1 million[46].

Similarly, in July 2024, another trader used Banana Gun to snipe NEIRO, an Ethereum-based

memecoin, purchasing 10 million tokens with 0.41 ETH, of which 0.3 ETH was used to bribe miners. This trade resulted in a $70,000 profit[47].

These cases illustrate that memecoin trading bots, in addition to their strong revenue-generating capabilities, also serve as powerful wealth-creation tools for users, making them highly valuable assets during bull markets.

5 Future Trends: The Development Path of Memecoin Trading Bots

As previously discussed, the rise of memecoin trading bots is closely tied to the explosive growth of the memecoin market between 2023 and 2024. Their development trajectory is highly dependent on the long-term sustainability of the memecoin ecosystem. Therefore, assessing the future trends of memecoin trading bots first requires evaluating whether the memecoin market itself has long-term potential.

Unlike tokens backed by traditional venture capital (VC), memecoins abandon lengthy narrative-building cycles in favor of a high-turnover trading model. This approach is often triggered by sudden social media events or viral trends—such as a single tweet or a breaking news story—causing token prices to surge hundreds or thousands of times within a short period. While this high volatility introduces significant risks, its immediacy and high liquidity align with two fundamental characteristics of the crypto market: decentralization and rapid capital flow. GMGN founder Jerry has described the ”Era of Memes” as ”the new retail era of assets”, noting that platforms like Pump.fun continuously attract user engagement and attention through low-cost, high-speed operations, in stark contrast to the slow-moving narratives of VC-backed tokens[48].

Memecoins tap into investor psychology, catering to the speculative mindset of ”high risk, high reward”. This unique appeal has solidified their position within the crypto ecosystem. At the same time, memecoin creation is becoming increasingly decentralized, allowing a wide range of entities—including celebrities, cultural communities, political figures, and even ordinary individuals—to issue memecoins as a means of expressing value. For example, cultural communities can use memecoins to enhance collective identity, politicians may leverage them to gauge public sentiment, celebrities can utilize them to increase fan engagement, and ordinary users can capitalize on viral trends to gain recognition or generate wealth. This flexibility and broad applicability suggest that the memecoin model has a degree of long-term viability.

However, its future growth is still subject to regulatory uncertainty, particularly as global cryptocurrency regulations tighten, potentially impacting the circulation and trading of memecoins. Despite these challenges, as long as the memecoin market remains active, memecoin trading bots—its core driving engine—are expected to evolve alongside it, potentially experiencing even greater breakthroughs.

This trajectory mirrors the historical evolution of decentralized exchanges (DEXs), which gradually challenged centralized exchanges (CEXs) by simplifying token listing processes and improving trading efficiency. Similarly, memecoin trading bots could see broader adoption, driven by continuous technological improvements and increasing market demand.

5.1 Deep Integration with Artificial Intelligence: A New Paradigm for Intelligent Trading

Since the launch of ChatGPT in 2022, the adoption of artificial intelligence (AI) has accelerated across industries, including the cryptocurrency sector. The convergence of AI and Web3 has given rise to numerous innovative projects, and as one of the most advanced trading tools, memecoin trading bots have already begun exploring AI integration. For instance, as previously mentioned, DeBot' s AI signals and AI monitoring features mark the initial step toward incorporating AI into trading bots. Looking ahead, as AI continues to advance—particularly in data processing and predictive analytics—memecoin trading bots are expected to undergo a deeper transformation toward intelligent automation.

Currently, many memecoin trading bots support multiple trading strategies, such as copy trading, dollar-cost averaging (DCA), and limit orders. However, these strategies are often mechanical and lack adaptive decision-making. For example, copy trading typically involves passively replicating the actions of a target wallet with minimal flexibility in adjusting parameters.

The integration of AI is set to revolutionize this approach. By analyzing on-chain data, traders' historical success rates, and token market performance, AI can automatically identify high-value traders and dynamically optimize copy trading strategies. AI-powered models can also enhance risk management by fine-tuning entry timing and capital allocation based on market conditions.

For dollar-cost averaging (DCA), traditional strategies rely on fixed schedules and preset price levels, making them ineffective in highly volatile markets. AI, however, can train on historical data, incorporate market sentiment analysis and macro trend predictions, and dynamically adjust investment frequency and order size to optimize returns while maintaining risk control.

AI will also greatly enhance efficiency in memecoin trading. Many memecoins gain traction when celebrities or project teams publish contract addresses (CA) on social media platforms like Twitter. Currently, investors must manually verify information and complete transactions, a process that is both inefficient and vulnerable to misinformation. In the future, AI could continuously monitor social media activity using natural language processing (NLP) and authenticity verification algorithms, automatically filtering reliable information and executing trades in real time.

This intelligent and automated trading paradigm would not only reduce the complexity of user operations but also enhance the competitiveness of memecoin trading bots in high-frequency trading environments.

5.2 Security Optimization: Balancing Convenience and Trust

The rapid development of memecoin trading bots has largely been driven by their emphasis on transaction efficiency and ease of use. However, this advantage often comes at the expense of security. Many bots rely on centralized servers to manage private keys or operate through third-party platforms like Telegram, increasing the risk of asset theft.

As account abstraction (AA) and chain abstraction technologies mature, memecoin trading bots are expected to seamlessly integrate with decentralized wallets. This would allow users to manage multi-chain assets with a single account while leveraging multi-signature mechanisms, smart contract audits, and other security measures to better protect their private keys.

Additionally, the shift toward mobile applications is likely to become a major trend. Compared to web-based or Telegram-based bots, mobile apps can utilize hardware sandboxes and trusted execution environments (TEE) to securely store private keys, significantly reducing the risk of external attacks.

Security improvements must also address on-chain trading threats, such as maximum extractable value (MEV) attacks and sandwich attacks. While some bots have already integrated MEV protection, sophisticated on-chain arbitrage strategies continue to pose risks. To mitigate these threats, memecoin trading bots need to further optimize their trading algorithms, reducing slippage and improving on-chain transaction success rates while minimizing user losses caused by price manipulation.

Partnering with professional security firms for regular audits will not only enhance technical relia-

bility but also serve as a valuable marketing asset, strengthening user trust and brand credibility.

5.3 Enhancing Liquidity and Ecosystem Collaboration: Building a Self-Sustaining Trading Loop

Improving liquidity is another key direction for the future development of memecoin trading bots. In February 2025, Pump.fun announced the launch of its own automated market maker (AMM) mechanism, directly challenging Raydium's liquidity dominance in the Solana ecosystem[49]. This move reduces reliance on third-party liquidity providers while allowing the platform to retain trading fees, reinforcing its internal economic value.

Although its trading depth may initially lag behind that of more established AMMs, this initiative offers valuable insights for memecoin trading bots. In the future, trading bot platforms could integrate AMM liquidity pools, allowing users to provide liquidity in exchange for high annual percentage yields (APY). This feature would be especially beneficial for highly volatile, trending memecoin markets, significantly boosting user engagement and platform retention.

Additionally, adjusting fee structures could further enhance liquidity development and revenue generation. For example, implementing a 1:1 fee model between native tokens and memecoins would enable bots to build liquidity while maximizing their own profitability rapidly.

5.4 User Experience Optimization Driven by Public Blockchain Advancements

With the continuous evolution of chain and gas abstraction technologies, decentralized exchanges (DEXs) are expected to enhance trading efficiency and cost advantages further, driving on-chain liquidity growth and attracting new users. This trend presents an opportunity for memecoin trading bots to improve user experience, making on-chain trading more accessible even to non-professional users.

For account management, chain abstraction enables seamless cross-chain operations, allowing memecoin trading bots to integrate smart accounts. This would eliminate the need for users to manually switch networks while allowing them to execute trades across multiple blockchain ecosystems effortlessly.

Gas fees remain a major pain point in on-chain trading. With gas abstraction technology, bots could introduce automated gas payments or gas sponsorship models, reducing the complexity of manual fee management. This improvement would significantly enhance the fluidity and usability of memecoin trading bots.

To help users better manage trading costs, memecoin trading bots should also offer comprehensive portfolio analysis tools. Instead of limiting analytics to bot-specific transactions, users should be able to track purchase prices, cost basis, and overall asset performance. Increased transparency and usability would empower users to refine their trading strategies, while also encouraging more traders to migrate from centralized exchanges (CEXs) to on-chain trading. This shift would further solidify memecoin trading bots as a core infrastructure in the decentralized ecosystem.

Looking ahead, with advancements in Layer 2 (L2) scaling solutions, zero-knowledge proofs (ZKP), and Rollup technologies, memecoin trading bots will continue to see improvements in transaction speed, cost efficiency, and security, reinforcing their position in the Web3 landscape.

6 Conclusion

Between 2023 and early 2025, memecoin trading bots emerged as a key driver of wealth creation and market innovation in the cryptocurrency bull market. Their future prospects remain highly promising. As the memecoin ecosystem continues to expand and diversify, trading bots are expected to evolve into a new paradigm of AI-powered intelligent trading, dynamically identifying market trends and optimizing strategies in real time.

At the same time, enhanced security measures, liquidity innovations, and advancements in public blockchain technology will further lower entry barriers and strengthen platform competitiveness.

Despite ongoing regulatory uncertainty and security challenges, the unique value of memecoin trading bots within decentralized trading ecosystems will only become more pronounced. As technology advances and user demand deepens, memecoin trading bots are poised to lead the next wave of industry growth, solidifying their role as a powerful wealth engine and a pioneering force in crypto innovation.

Glossary

Term	Explanation
MEV Bot	MEV (Maximum Extractable Value) bots are automated programs that exploit blockchain transaction ordering (e.g., front-running or arbitrage) to generate profits. They are commonly found on networks like Ethereum, monitoring the mempool to execute strategies such as sandwich attacks.
Sandwich Attack	An MEV strategy is where a bot inserts its own transactions before and after a target transaction (buying first, selling after) to profit from price fluctuations, forcing the original trader to incur higher costs.
Rug Pull	A fraudulent crypto project in which developers attract investors but suddenly withdraw all funds and abandon the project, leaving investors with worthless assets. This is common in scam tokens or liquidity pool projects.
Pi Xiu (貔貅) Scheme	A Chinese slang term referring to crypto projects or tokenomics where investors can buy in but have extreme difficulty selling—similar to the mythical Pi Xiu, which "only takes in wealth but never lets it out." This is usually due to design flaws or scams.
Liquidity Pool Burning	The act of permanently removing tokens or assets from a liquidity pool to reduce supply, increase scarcity, or stabilize prices. Often used for tokenomics adjustments or eliminating bad assets.
Blockchain Abstraction	A concept where technologies (e.g., cross-chain protocols) hide the complexity of underlying blockchains, allowing users to interact with decentralized applications (dApps) without worrying about specific blockchain details, improving interoperability and user experience.
Account Abstraction	A concept proposed in Ethereum (EIP-4337) removes rigid account rules, allowing more flexible transaction validation and execution (e.g., transactions without private key signatures), improving security and usability.
Gas Abstraction	A mechanism that simplifies blockchain transaction fees (Gas), allowing users to pay Gas fees with tokens or third-party services instead of native blockchain tokens, enhancing the user experience, especially in high-gas environments.

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