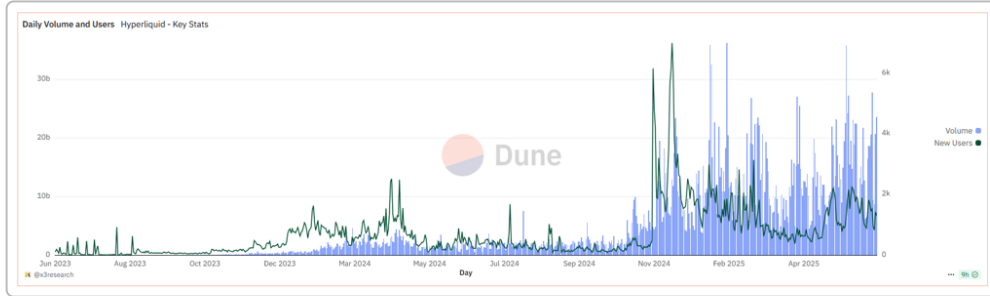


# Monte Carlo Simulation Framework for Hyperliquid (HYPE) Price Prediction

## Introduction



*Hyperliquid's rapid adoption is evident in its platform metrics. For example, daily trading volumes on Hyperliquid (blue bars) have spiked into the tens of billions of USD, while new user counts (green line) have climbed steadily. This explosive growth has translated into a HYPE token price surge of over 1,000% since its late-2024 launch <sup>1</sup>. The platform now dominates the decentralized perpetuals market, recently processing roughly 70% of all DEX perpetual trading volume <sup>2</sup>.*

Hyperliquid (**HYPE**) is the native token of the Hyperliquid decentralized trading platform, which has quickly become a leader in the DeFi perpetuals space. Given HYPE's **tremendous historical gains** (over 10× since launch <sup>1</sup>) and high **price volatility**, forecasting its future price requires a robust method to account for uncertainty. **Monte Carlo simulation** is a powerful tool for this task. By simulating thousands of possible price paths based on a statistical model, we can estimate a range of potential future prices and their probabilities. Below we outline a comprehensive Monte Carlo simulation framework using **Geometric Brownian Motion (GBM)** with adjustments for Hyperliquid's fundamental growth metrics. This approach will help incorporate both the **random market fluctuations** and **projected fundamental trends** into a 5-month price prediction for HYPE.

## Monte Carlo Methodology: Geometric Brownian Motion

Monte Carlo simulations generate a large number of random trial outcomes to approximate the probability distribution of future results <sup>3</sup> <sup>4</sup>. For asset prices, the most common model is **Geometric Brownian Motion (GBM)**, which assumes that **asset returns follow a random walk with drift** (trend) and **volatility** (random shocks) <sup>5</sup>. Under GBM, HYPE's price evolution over a small time step  $\Delta t$  can be modeled as:

$$\Delta S = S \times (\mu \Delta t + \sigma \varepsilon \sqrt{\Delta t}),$$

where  $S$  is the current price,  $\mu$  is the expected return (drift),  $\sigma$  is the volatility, and  $\varepsilon$  is a random draw from a standard normal distribution <sup>6</sup> <sup>7</sup>. In simpler terms, each day HYPE's price is expected to "drift" by a

certain percentage ( $\mu$ ) but is also buffeted by a **random shock** proportional to its volatility  $\sigma$ . Positive shocks ( $\epsilon > 0$ ) push the price up beyond the drift, while negative shocks ( $\epsilon < 0$ ) push it down. Over many days, this yields a stochastic price path. GBM is widely used because it ensures the simulated prices are **log-normally distributed** and non-negative, which is realistic for asset prices <sup>5</sup>.

**Why Monte Carlo?** By running **10,000+ simulations** of this GBM model, we obtain a **distribution of possible future HYPE prices** rather than a single point estimate. This allows us to **assess risk and uncertainty** – for example, the likelihood of HYPE exceeding a certain price or falling below a threshold. With enough trials (on the order of thousands), the Monte Carlo results provide robust statistics on the range of outcomes <sup>8</sup>. In essence, Monte Carlo simulation “forecast[s] a range of possible results by simulating the impact of randomness” on HYPE’s price <sup>9</sup>. This is crucial for **crypto assets like HYPE, which exhibit high volatility and fat-tailed returns**, as it captures extreme scenarios (both bullish and bearish) in addition to the expected trend.

## Incorporating Fundamental Factors (“Fundamental Adjustments”)

A key enhancement to the basic GBM model is to adjust its parameters in light of **Hyperliquid’s fundamental growth metrics** – essentially blending statistical modeling with fundamental analysis. HYPE’s price is not driven by randomness alone; it is underpinned by the platform’s **market adoption, revenues, and user base**. We incorporate fundamentals in the simulation framework as follows:

- **Drift (Expected Return) Informed by Growth:** The drift  $\mu$  can be calibrated not only from historical price returns but also adjusted based on forward-looking growth indicators. Hyperliquid’s fundamentals are exceptionally strong – it has captured a dominant market share in decentralized derivatives and is growing fast. As of mid-2025, Hyperliquid commands on the order of **70–76%** of decentralized perpetual trading volume <sup>2</sup>, far surpassing competitors. Its user base has swelled to over **500,000 users** <sup>10</sup>, and the platform’s trading volumes (and thus fee revenues) have exploded. These factors suggest a positive outlook that could justify a higher expected return *if* they continue. For example, one could set the drift  $\mu$  to reflect the platform’s **user growth rate or revenue growth** in addition to past price trends. If market share and usage keep rising, demand for HYPE (which has governance and fee-reward utility) may increase, biasing the price upward over time. Conversely, if growth shows signs of slowing,  $\mu$  can be dialed down accordingly. Essentially, fundamentals serve as a **reality check** on the drift: they anchor the expected return to tangible adoption metrics rather than relying purely on past price momentum.
- **Scenario-Based Adjustments:** Another way to incorporate fundamentals is via **scenario modeling within the Monte Carlo simulation**. For instance, we can simulate multiple sets of trials under different assumptions: a **bull case** where Hyperliquid’s market share continues to expand (high  $\mu$ ), a **base case** with moderate growth ( $\mu$  as calibrated from recent history), and a **bear case** where competition erodes its dominance (low or even negative  $\mu$ ). Each scenario’s probability can be weighted according to fundamental analysts’ expectations. Over 10,000 simulations, a mix of scenarios can be sampled to reflect optimism or pessimism about fundamentals. This yields a combined distribution of outcomes that factors in fundamental uncertainties (e.g. a breakthrough in user adoption vs. a setback due to some issue). In all cases, the **volatility  $\sigma$**  would still reflect market randomness, but the mean trend differs by scenario. The result is a **fundamentally-informed Monte Carlo forecast**, where, for example, a large portion of simulations might trend strongly upward if continued growth is deemed likely, but a subset of trials account for stagnation or decline.

- **Dynamic Drift or Jumps:** In more advanced implementations, one could tie the drift dynamically to certain fundamental milestones within the simulation. For example, if a simulation path reaches a certain price level (implying increased market cap), one might **adjust  $\mu$  or  $\sigma$**  to reflect saturation or heightened volatility. However, this introduces complexity and is not a standard GBM approach. A simpler method is to bake in fundamental expectations at the start via the drift or to overlay deterministic growth. For instance, one might model HYPE's price as GBM *plus* a deterministic upward drift reflecting expected platform revenue growth (sometimes called a trend term or a "drift adjustment"). This essentially means the **expected price path** in the absence of randomness follows a growth curve informed by fundamentals, around which random variation is added.

In summary, **fundamental adjustments ensure the Monte Carlo simulation isn't purely backward-looking**. Hyperliquid's extraordinary metrics (dominant market share, high revenue, rapid user growth) suggest a higher probability of favorable outcomes than a generic token might have. We use these data to guide the simulation's drift and scenarios, while still recognizing that randomness and external market forces can deviate the price from fundamentals in the short run.

## Key Model Inputs and Assumptions

To implement the Monte Carlo model for HYPE's price, we must specify quantitative inputs. Below are the **key parameters and their values/justifications** (using the most up-to-date data available):

- **Initial Price ( $S_0$ ):** HYPE's current price as the starting point. As of late June 2025, HYPE trades around **\$36-\$37 USD** <sup>1</sup>. We will use the latest price (~\$36.3 <sup>11</sup>) as  $S_0$  for the simulation. This anchors the simulation to the real market value.
- **Time Horizon:** 5 months into the future. This projection period (approximately 150 days) was chosen to align with a short-to-medium-term outlook – far enough to see meaningful changes, but near enough that fundamentals like Hyperliquid's growth trajectory can be reasonably anticipated. We will use **daily time steps** ( $\Delta t = 1$  day) in the simulation, which allows us to capture day-to-day volatility and compound its effects over the 5-month period. Using daily steps also lets us incorporate intraday volatility patterns and avoids underestimating the variability that would be lost with coarser time steps.
- **Drift ( $\mu$ ):** The expected daily return of HYPE. This is calibrated from **historical performance and fundamental outlook**. Historically, HYPE's performance has been extraordinary – over **+1,000%** in roughly 7 months since its launch <sup>1</sup>. This translates to a very high average monthly growth rate. However, it would be unrealistic to project the same breakneck growth forward indefinitely. For the base-case drift, we can derive  $\mu$  from the historical data (e.g. using log-returns). Assuming ~1129% total gain in 7 months (~12.29 $\times$  the launch price), the **annualized** continuously-compounded return would be on the order of **500–600%**. This is an enormous drift (reflecting early-phase growth). We might temper this for our 5-month forecast to something lower (since as market cap grows, percentage gains typically slow). For example, one could assume a still-strong  **$\mu$  corresponding to, say, 100–200% annual growth**, which on a daily basis is ~0.3% to 0.5% per day in expected value. The exact choice of  $\mu$  can be refined by looking at **recent price trends** (e.g. HYPE's average daily return over the past 30 or 60 days) and by incorporating fundamental optimism. If Hyperliquid's usage is still climbing, one might lean toward the higher end of drift; if one expects competition to increase, a lower drift is prudent. **Important:** The drift is a critical input that heavily influences the

simulation's median outcome, so it should be chosen carefully and transparently. In our framework,  $\mu$  will be treated as an adjustable input – we will likely run the simulation with a base  $\mu$  (e.g. derived from recent momentum and fundamentals) and possibly test sensitivity by using a slightly lower or higher  $\mu$  to see how outcomes change.

- **Volatility ( $\sigma$ ):** The annualized volatility (standard deviation of returns) for HYPE. Crypto tokens are notoriously volatile, and HYPE is no exception. Based on data for HYPE and comparable DeFi tokens, an **annualized volatility around 80–85%** is a reasonable estimate <sup>12</sup>. For context, in 2025 HYPE's observed volatility has been about **80%** (meaning the standard deviation of annual price fluctuations is 0.8 in fractional terms) <sup>12</sup>. We will use  $\sigma \approx 0.85$  (**85%**) annualized. This corresponds to a **daily volatility** of roughly  $85\%/\sqrt{252} \approx 5.35\%$  per day (assuming 252 trading days in a year). Volatility is easier to estimate from historical data than drift, and HYPE's high trading volumes and active market suggest its volatility will remain in this range barring any regime change. We also note that 85% is within the range of other DeFi tokens, which often see 50–100% annual volatility in active markets. This volatility parameter will introduce a wide spread in the simulation outcomes – which is appropriate given that double-digit percentage swings in HYPE's price have been observed within days or weeks.
- **Fundamental Metrics (for Adjustment):** We include Hyperliquid's latest fundamentals as inputs that inform our drift or scenario analysis:
- **Market Share:** Hyperliquid's share of decentralized perpetual trading volume is roughly **70–76%** as of mid-2025 <sup>2</sup>. This indicates Hyperliquid is the clear market leader, which could support sustained demand for HYPE if that dominance continues. We might assume in our base case that Hyperliquid maintains or slightly grows this share over 5 months (since the trend has been upward). If we run an optimistic scenario, we could envision market share growing further (e.g. toward 80–90%), whereas a pessimistic scenario might have competitors reclaiming some share (dropping Hyperliquid to say 50–60%). These qualitative adjustments would influence how we set  $\mu$  in different simulation scenarios (higher  $\mu$  if we anticipate increasing dominance, lower  $\mu$  if we fear loss of dominance).
- **Revenue/Protocol Fees:** Hyperliquid's platform is generating enormous fee revenue due to its high trading volumes. Recent reports show that roughly **\$910 million** worth of fees have been accumulated and used for HYPE buybacks in about half a year <sup>13</sup>. This implies an annualized platform revenue well over \$1 billion (given ~97% of fees go to buybacks <sup>13</sup>). Such revenue streams can support the token (via buy-and-burn or treasury operations) and reflect strong usage. For our model, the revenue figure per se doesn't directly enter GBM, but it justifies that **the drift should account for positive token buy pressure** (since most fees are reinvested into HYPE). In other words, the high revenue and buyback policy effectively create an underlying demand for HYPE, which can lift the expected return. We incorporate this by ensuring  $\mu$  is kept on the optimistic side of what pure price history might suggest. (If HYPE were just drifting down or flat in price, the fundamentals argue that might be an undervaluation given cash flows being put into the token.)
- **User Growth:** Hyperliquid has over **500,000 users** and growing <sup>10</sup>. A large and expanding user base means more traders potentially using the platform, which correlates with higher trading volumes and greater token utility. For forecasting, we assume user growth will continue over the next 5 months (though perhaps at a decelerating rate as it's already quite large). If, for example, users grew by 50% in that period, one could factor that into a higher drift (more users -> more

demand for the token and ecosystem). If user growth stalls, that might temper the drift. We don't explicitly model user count in the Monte Carlo simulation, but it provides qualitative guidance: a healthy growth rate supports a bullish drift assumption.

In summary, the above inputs set the stage for the simulation.  $S_0 \approx \$36$ ,  $\mu$  reflecting strong but sustainable growth,  $\sigma \approx 85\%$ , over  $T = 5 \text{ months } (\approx 150 \text{ days})$  with  $\Delta t = 1 \text{ day}$ . Fundamental stats (market share  $\sim 70\%+$ , nearly \$1B in fees, 500k+ users) give us confidence that a *positive drift* is justified for base case, while also defining the bounds of optimistic/pessimistic scenarios. All these inputs can be fine-tuned as more data comes in – for instance, if HYPE's volatility suddenly doubles due to a market event, we'd update  $\sigma$ ; if next month's volume shows Hyperliquid taking even more market share, we might raise  $\mu$  slightly, etc. The framework is flexible to new data.

## Simulation Setup and Execution

With the model and parameters established, implementing the Monte Carlo simulation involves these steps:

1. **Generate Random Price Paths:** We will simulate **10,000 independent price paths** for HYPE over the 5-month horizon. Each path is a sequence  $S_0, S_1, S_2, \dots, S_T$  where  $T = 150 \text{ days}$  (approximately), and  $S_0 = \$36.3$  (current price). For each small daily step from  $t$  to  $t + 1$ , we update the price using the GBM formula. A common discrete implementation is:

$$S_{t+1} = S_t \times \exp\left((\mu - \frac{1}{2}\sigma^2)\Delta t + \sigma\sqrt{\Delta t} Z\right),$$

where  $Z$  is a random draw from a standard normal distribution  $N(0, 1)$ . This formula is mathematically equivalent to the differential form of GBM, and it ensures that we correctly account for the drift and volatility (the  $-\frac{1}{2}\sigma^2$  term is a continuous-time adjustment so that the expected change is  $\mu$  *not* biased by variance). Using a random number generator, we draw a fresh  $Z$  for each day for each simulation path. This is done 150 times per path, and 10,000 paths, totaling 1.5 million simulated day moves – easily handled by a computer program. We iterate this process to get a large set of possible outcomes. Monte Carlo relies on the **law of large numbers** – with enough trials, the distribution of outcomes should converge to the “true” probabilistic outcome given our model assumptions <sup>8</sup>. By using 10,000 simulations (which is above the “several thousand” often recommended <sup>8</sup>), we ensure a robust sample to derive statistics from.

2. **Apply Fundamental Scenarios (if applicable):** As discussed, we can either fix  $\mu$  (and  $\sigma$ ) for all simulations, or introduce scenarios. If doing scenarios, one practical approach is to split the 10,000 simulations into different groups. For example: 5,000 simulations with a base-case  $\mu$  (maybe  $\sim 150\%$  annual drift), 3,000 simulations with a bull-case  $\mu$  (e.g. 250% annual to reflect hyper-growth), and 2,000 with a bear-case  $\mu$  (e.g. 0% or negative drift to reflect a downturn). Each group still uses  $\sigma = 85\%$  (unless we also think volatility would differ in those scenarios). This weighted approach means, effectively, we are assuming a 50% probability of base scenario, 30% bull, 20% bear (those weights can be adjusted to the user's belief). We then combine the outcomes. The advantage of this method is that it builds fundamentals-driven narratives into the simulation: e.g., if the bull case (high drift) corresponds to Hyperliquid continuing to gain market share aggressively, we've accounted for that

proportionally. If instead one prefers a single unified model, one might just pick a  $\mu$  that already reflects the expected growth (perhaps somewhat conservatively) and run all simulations with that. In either case, **the random shocks will create a spread** around whatever drift we set. Even with a high drift, some simulation trials will end up with lower prices (if many negative shocks occur), and with a low drift some trials will end up high (if luck is good). Monte Carlo inherently accounts for volatility around the mean outcome.

3. **Collect and Analyze Outcomes:** After running the simulations, we will have 10,000 possible HYPE prices at the 5-month horizon (as well as the full paths if needed). We then analyze this result set to extract meaningful statistics:
4. **Probability Distribution:** We can plot a histogram or distribution of the ending prices. This shows the range and skew of outcomes. Often, with positive drift, the distribution will be skewed right (a long tail for high prices, since there's no upper bound on growth, while losses are capped at -100%). We expect many outcomes to cluster around some middle range, with some very high outliers if a simulation caught a streak of positive returns.
5. **Expected Price and Median:** Compute the **mean** ending price across all simulations, and the **median** ending price. The mean gives the probabilistic expectation (which, due to the skew, might be higher than the median). The median tells us the midpoint outcome (50% chance HYPE will be above this price, 50% below, under the model).
6. **Confidence Intervals (Percentiles):** A key output is the range within which HYPE's price might lie with certain confidence. For instance, find the **5th percentile and 95th percentile** of the simulated prices. This might say, for example, "There is a 90% probability HYPE will end up between \$X and \$Y after 5 months" (where \$X is the 5th percentile price and \$Y the 95th). We might also note more narrow bands like 25th–75th percentile (middle 50% of outcomes) to gauge typical variability.
7. **Probability of Specific Scenarios:** We can answer questions like "What is the probability that HYPE doubles in 5 months?" by seeing what fraction of simulations end above \$72 (i.e.  $2 \times \$36$ ). Similarly, "risk" metrics like probability of losing value (end price  $< \$36$ ) or dropping more than 20% (end  $< \sim \$29$ ) can be calculated. Monte Carlo essentially allows us to **quantify the odds** of various events. With 10,000 trials, even low-probability events (like a 1% chance scenario) will on average appear  $\sim 100$  times, giving us some statistical confidence in estimating those chances.
8. **Path Analysis:** If needed, we can also look at the trajectory of price in some simulations to understand volatility over time. For example, among the top 1% best outcomes, do they show a pattern of early big jumps? Among the worst outcomes, is there a crash early on? This can give insight into *when* and *how* things might happen. However, for most purposes, the focus is on the distribution of final prices at the horizon.

The Monte Carlo simulation can be implemented in code (Python, R, Excel, etc.) following the above logic. The output will be a rich set of data to interpret. It's important to remember that these results are **contingent on the input assumptions**. The simulation provides a "**if our model is correct, here's what might happen**" outlook – if reality deviates (and in crypto, it often can), the actual price may fall outside the simulated range. That's where our next section on risk factors and disclaimers comes in.

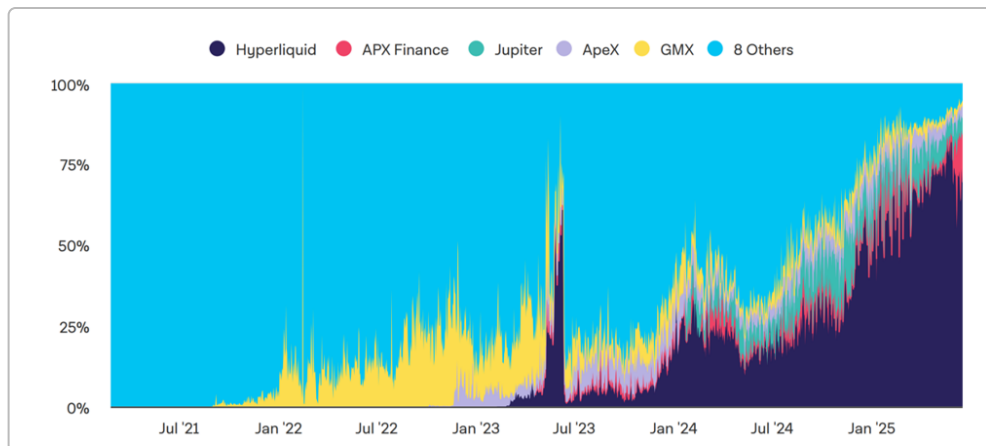
## Risk Factors and Considerations

While the Monte Carlo model gives a structured approach to forecasting, one must account for various **risk factors and uncertainties** that could impact HYPE's price beyond what our model captures. These factors

should be kept in mind when interpreting the simulation results (and they can be partially incorporated via scenario analysis as discussed). Key risk considerations include:

- **Competition:** The crypto exchange and DeFi landscape is highly competitive. Hyperliquid currently enjoys a huge lead in the on-chain perpetuals market ( $\approx 70\%$  share <sup>2</sup>), but competitors like dYdX, GMX, or new entrants could innovate or offer incentives that draw users away. If a rival were to significantly eat into Hyperliquid's market share, the bullish assumptions in our drift would no longer hold. Competition can also compress trading fees or require higher incentives (reducing effective revenue), impacting the token's value accrual. Monte Carlo simulations in our framework can model competition risk by using a lower drift scenario, but it's hard to predict *if or when* such competitive dynamics shift – e.g., a new protocol could suddenly attract users (a “shock” not unlike a random negative jump in price).
- **Regulatory Environment:** Regulation is a wild card for any crypto project, especially one dealing with trading and derivatives. Any regulatory crackdowns on DeFi exchanges or on tokens like HYPE (for example, if deemed a security in some jurisdiction) could severely impact price. Such events are not predictable by historical volatility (they would appear as outlier shocks). In a simulation, this could be approximated by adding a small probability of a large downward jump. For instance, one might incorporate a 1% chance that at some random day, HYPE loses 30-50% of value on regulatory news – but this kind of jump diffusion model complicates the analysis. At minimum, we should qualitatively acknowledge that **regulatory actions or legal challenges** pose downside risk that a simple GBM may not fully capture. If the user of this framework is particularly concerned about this, they could run an alternate simulation with an added jump risk or simply interpret the lower percentile outcomes as scenarios where something like regulation hits.
- **Market Cycles and Macro Factors:** The overall crypto market condition (bull or bear) will influence HYPE's price trajectory significantly. GBM assumes a kind of steady-state random process, but in reality crypto goes through cycles of euphoria and fear. A broad **market downturn** (e.g., Bitcoin and Ethereum falling significantly) could drag HYPE down regardless of Hyperliquid's strong fundamentals – investors might flee risky assets or there could be contagion effects. Conversely, a crypto-wide rally could lift HYPE beyond our model's drift (which is based on HYPE-specific factors). To some extent, high volatility  $\sigma$  accounts for the possibility of large swings, but it treats ups and downs as symmetric random events. Real market moves can be more structurally driven. It's wise to run scenarios in line with market conditions: e.g., a bear market scenario with negative drift for HYPE, or a bull market scenario with extremely high drift. **Macro factors** like interest rates, global economic news, or major geopolitical events can also introduce risk that is external to the project itself.
- **Execution and Technical Risks:** As with any tech platform, Hyperliquid's future success isn't guaranteed. **Technical issues**, hacks, or failures in the protocol could erode user trust. The Cointelegraph analysis noted that Hyperliquid runs on only **21 validators**, raising some concerns about decentralization and potential vulnerabilities <sup>14</sup> <sup>15</sup>. If an exploit or outage occurs, users might retreat, and HYPE's price could plummet. Additionally, the project's continued development (rolling out new features, maintaining security, etc.) is crucial – any stumble in execution could slow growth. These are difficult to model quantitatively, but one can acknowledge them in the framework by, say, ensuring that the simulation includes some probability of negative outcomes even if fundamentals look strong. For example, our Monte Carlo results might show a 5th percentile

outcome where HYPE loses a large fraction of value – that could correspond to an execution failure scenario. It's important to note that **Monte Carlo is not prescient**: it won't tell you *why* a certain bad or good outcome happens, just that randomness could produce it. So coupling the simulation with real-world risk assessment is essential.



*Market share of decentralized perpetual trading volume by platform (stacked area chart). Hyperliquid (dark purple region) went from negligible presence to dominating the market by 2025, surpassing platforms like GMX (yellow) and others. By early 2025 Hyperliquid accounted for the majority of DEX perpetual volume <sup>16</sup>. This fundamental dominance underpins the bullish drift in our model, but also note how quickly the landscape evolved – highlighting the risk of disruption by new players.*

In the above chart, we see how **dramatically Hyperliquid's market share increased** – an illustration of both its success and the dynamic nature of the DeFi market. When using the Monte Carlo framework, one should continuously update it with such data. If a new trend shows Hyperliquid's share shrinking, that should feed into a reduced drift or a new scenario. **Flexibility** and **vigilance** are part of the framework: the crypto world can change in weeks, so any long-term simulation must be revisited frequently with the latest information.

## Important Disclaimers

Monte Carlo simulations provide a **statistical forecast, not a certain prediction**. It is crucial to understand the limitations and make appropriate disclaimers:

- **Not a Guarantee:** The range of outcomes from the simulation is an estimate based on the model assumptions (drift, volatility, etc.). Real market outcomes can and will deviate if the assumptions don't hold. For instance, if HYPE's true future volatility is 2× what we assumed, or if an unforeseeable event occurs, the actual price could fall outside our simulated 90% confidence interval. **No Monte Carlo model can guarantee future prices**, it only illustrates probabilities under a given model <sup>3</sup>.
- **Model Assumption Risk:** We assumed a GBM process with a certain drift and volatility. This assumes returns are roughly normally distributed and independent day to day (conditional on drift). In reality, crypto returns can have **fat tails** (extreme events more common than normal distribution predicts) and **volatility clustering** (periods of high volatility followed by high volatility, etc.). Our simulation might understate the probability of extreme crashes or spikes if these features are present.



Moreover, drift might not be constant – HYPE's return could regime-shift (e.g., drop to zero if something catastrophic happened). The **efficient market hypothesis** underpinning GBM (that past prices don't predict future prices <sup>5</sup>) may not fully apply if there are momentum or mean-reversion effects in crypto. We use GBM as a reasonable baseline, but it's a simplification of reality.

- **Data Uncertainty:** We used the “most up-to-date” data available (market share, user counts, etc.), but in crypto, data can be incomplete or rapidly outdated. For example, the user count of 511k+ comes from a report at a point in time <sup>10</sup> – by next month it could be significantly higher. Likewise, our market cap and revenue figures are estimates. **If any input data is wrong or changes significantly, the simulation should be rerun.** This framework is meant to be iterative: as new data on HYPE and Hyperliquid arrives, one should recalibrate  $\mu$ ,  $\sigma$ , and other inputs.
- **Financial Disclaimer:** This Monte Carlo analysis is for informational and analytical purposes. It **should not be taken as financial advice or a recommendation** to invest in HYPE or any asset. The crypto market is highly speculative. Anyone using this framework should do their own due diligence and consider their risk tolerance. **Past performance (even +1000% in 7 months!) is not indicative of future results.** Monte Carlo models can inform about risk, but they cannot predict market sentiment or guarantee profit.

In conclusion, the Monte Carlo methodology with GBM provides a structured way to **forecast HYPE's price range** by accounting for volatility and drift, while incorporating Hyperliquid's strong fundamentals to inform that drift. The framework involves calibrating inputs (with data-driven estimates for growth and risk), running extensive simulations (10,000+ trials) <sup>8</sup>, and analyzing the distribution of outcomes to gauge probabilities. By integrating fundamental factors such as market share, revenue, and user growth, we tailor the model to Hyperliquid's unique context – which currently skews bullish, yet we remain mindful of competition, regulation, and market-wide risks. Using this framework, one can implement their own simulation (in code or spreadsheet) and update it as new information emerges. **The result is not a crystal ball, but a useful map of potential futures** for the HYPE token, against which real-world developments can be measured as time unfolds.

**Sources:** The analysis above cites the latest data and research on Hyperliquid and Monte Carlo methods, including price and market statistics from CoinMarketCap and Cointelegraph, historical volatility from CoinLore, and methodology insights from Investopedia and others <sup>1 2 12 7</sup>. These sources provide grounding for the assumptions used. Any errors or misinterpretations of the source data are unintentional – users should refer to the cited materials for further details and conduct additional research if needed.

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<sup>1</sup> Hyperliquid's Trading Volume Surpasses \$1.6 Trillion, HYPE Token Gains 1,000%  
<https://www.ainvest.com/news/hyperliquid-trading-volume-surpasses-1-6-trillion-hype-token-gains-1-000-2506/>

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<sup>3 9</sup> Monte Carlo Simulation: What It Is, How It Works, History, 4 Key Steps  
<https://www.investopedia.com/terms/m/montecarlosimulation.asp>

<sup>4 5 6 7 8</sup> How to use Monte Carlo simulation with GBM  
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