TradeOptix

Adaptive Circuit Breaker Algorithm

Executive Summary

The Adaptive Circuit Breaker algorithm is a non-trading safeguard designed to detect overheated market conditions and preemptively halt new buying activity. Its primary function is capital preservation: by identifying when the crypto market is approaching a cycle top, it signals trading algorithms to shift from accumulation to protection mode. This allows profits to be locked in and cash preserved during major downturns.

How It Works

- **Market Cycle Analysis**: Tracks leading cryptocurrencies against their 52-week ranges, identifying when assets trade near historical highs.
- **Sentiment Integration**: Incorporates data such as the Crypto Fear & Greed Index to capture investor psychology.
- **Threshold Triggering**: When 80% or more of tracked cryptocurrencies are trading near their 52-week highs **and** sentiment is excessively positive, the algorithm activates a halt signal.
- **Signal Propagation**: Sends stop-buy signals to all active trading algorithms and initiates sell-focused behavior.
- **Circuit Breaker Logic**: Once activated, the system remains in halt mode for a predefined duration (e.g., 30–90 days depending on the cycle phase), reducing exposure during dangerous peaks.

Integration with Other Algorithms

The Adaptive Circuit Breaker does not execute trades directly. Instead, it acts as a meta-layer across trading strategies:

- Investment/Swing Trade, Market Maker, and Market Neutral algorithms immediately cease new buys when a halt is triggered.
- The Profit Taker algorithm prioritizes structured sell-offs of remaining positions.
- Profits accumulated are then preserved in cash or stable assets until the market conditions normalize.

Advantages

- **Capital Preservation**: Protects gains from being erased in sharp downturns.
- **System Discipline**: Removes emotional decision-making by enforcing a rules-based halt.
- **Market Cycle Awareness**: Captures historical patterns of crypto boom-and-bust cycles.
- **Synergy**: Enhances the performance of other algorithms by ensuring they operate within a safe macro context.
- **Proven Results**: Backtesting across current and prior market cycles shows consistent effectiveness at signaling tops and reducing downside exposure.