

# SMARTS ATOMIC ARBITRAGE BOT

*Risk-Free Arbitrage, Executed in a Single Atomic Bundle*



The SMARTS Atomic Arbitrage Bot is the most optimized, capital-efficient engine in the SMARTS MEV product line, purpose-built for high-throughput trading environments.

It captures real-time price discrepancies across decentralized venues and executes the entire arbitrage cycle atomically, locking in profit without any exposure to price movement or execution variance.

If every step of the trade path cannot complete profitably within the same transaction, the operation instantly reverts, eliminating slippage, partial fills, and market risk altogether.

Activate the bot, fund your account, and let it continuously scan for risk-free, profitable opportunities for value extraction.

## KEY FEATURES



### Cross-DEX Price Gap Detection

Monitors AMM pools across major DEXes to identify price spreads and liquidity imbalances for arbitrage opportunities.



### Autonomous Arbitrage Engine

Continuously validates and executes profitable arbitrage loops in the background without manual intervention.



### Guaranteed-Profit Atomic Execution

Executes trades only when every step in the atomic bundle is profitable; otherwise, transactions revert automatically.



### Multi-Route Arbitrage Support

Chooses the most profitable path — 2-pool loops, 3-point triangular routes, or multi-hop sequences.



### Protected Transaction Submission

Uses private RPC routes and relays to prevent competition and copycat arbitrage attacks.



### Auto-Compounding Vault

Automatically reinvests profits to grow trading capital and size over time.

## TECHNICAL HIGHLIGHTS

### Multi-Hop Route Optimization

Uses a graph-based engine to identify the most profitable multi-asset paths, bridging through assets like WETH or USDC to exploit fragmented liquidity beyond simple A-B swaps.

### Deterministic Profitability Check

Pre-verifies trades on-chain and ensure that output exceeds input plus fees, automatically reverting any unprofitable transaction.

### Multi-DEX Routing Engine

Aggregates liquidity from multiple AMMs and dynamically finds the most efficient execution paths, splitting orders if needed to minimize slippage.

### Priority-Based Bundle Submission

Submits transaction bundles via block builders with optimized tips, securing top-of-block inclusion and execution priority without costly public gas wars.

### JIT Smart Contract Proxy

Dynamically injects only the necessary DEX-specific bytecode at execution instead of holding logic for every possible DEX (which increases code size and gas cost), keeping gas costs minimal.

### Multi-Hop Execution Layer

Bundles all swaps in the route into a single atomic transaction, minimizing gas and execution risk while ensuring seamless execution.

## How the Atomic Arbitrage Bot Works

