QUANT Inter IIT Bootcamp
Intraday Equity Trading Strategy

Stock Selection Strategy

Sector-Aware Selection:

Each stock is mapped to its sector using a sector map, ensuring sector diversification is maintained while selecting top-performing stocks.

Proportional Sector Allocation:

Stocks are selected proportionally to their representation in NIFTY100—for example, Finance has more stocks selected than smaller sectors—to reduce sector bias.

Multi-Factor Scoring:

Stocks are scored using multiple factors:

- Momentum (absolute & relative)
- Volume momentum
- Volatility
- Liquidity
- RSI stability

Weighted Scoring:

Each factor contributes differently to the total score using predefined weights (e.g., momentum 25%, relative momentum 25%, volatility 10%, etc.), allowing for more robust selection.

Normalization of Metrics:

Raw factor values are normalized to handle scale differences and ensure fair comparison between stocks.

Top-N Stock Selection per Sector:

For each sector, the top N stocks by weighted score are selected (e.g., 4 from Finance, 1 from Energy, etc.) to ensure both quality and diversification.

Fallback Selection:

If total selected stocks are less than the target (TOP_N), additional top-scoring stocks from other sectors are included to reach the desired portfolio size.

Output & Ranking:

The final selection is ranked by weighted score and exported for further use in backtesting or trading. This ensures a clear, chronological order for trading decisions

Trading Strategy

VWAP + RSI Momentum Confluence Intraday Strategy

1. **Stock Selection & Capital Allocation:**
    - Top N stocks are selected from sector-weighted ranking based on previous performance.
    - Total capital (₹100,000) is divided among the selected stocks.
    - Purpose: Ensures balanced exposure across multiple high-performing stocks.
2. **RSI Calculation & Conditions:**
    - RSI is calculated with a 14-period window.
    - Long Entry Condition: RSI > 28 (oversold) and < 50 → indicates upward potential but not overbought.
    - Short Entry Condition: RSI < 72 (overbought) and > 50 → indicates downward potential but not oversold.
    - Exit Conditions:
        - Long: exit if RSI > 70 (overbought).
        - Short: exit if RSI < 30 (oversold).
    - Purpose: Identifies momentum shifts and prevents entering trades at extreme levels.
3. **VWAP Calculation & Conditions:**
    - VWAP = cumulative (Close × Volume) / cumulative Volume.
    - Long Entry Condition: Price > VWAP → intraday bullish trend.
    - Short Entry Condition: Price < VWAP → intraday bearish trend.

Purpose: Confirms trade direction with respect to market sentiment.

Trading Strategy

Volume Filter:

Average volume over the last 13 periods is calculated.

Trade only if current volume > average volume.

Purpose: Ensures liquidity and that the move is backed by participation.

Time-Based Filters:

No trades taken between 09:15–09:25 (opening) and after 15:20 (closing).

Purpose: Avoids volatile or thin-market periods.

Entry Logic:

Long Entry: Price > VWAP AND RSI between 28–50 AND Volume > AvgVol → enter long.

Short Entry: Price < VWAP AND RSI between 50–72 AND Volume > AvgVol → enter short.

Stop loss is set immediately:

Long: entry × (1 – 0.5%)

Short: entry × (1 + 0.5%)

Partial & Full Profit Exit:

Partial exit at 0.5% gain → PnL booked, entry price updated, trailing stop of 0.5% set.

Full exit at 1% gain OR if price hits stop-loss OR if RSI indicates reversal (RSI>70 for long, RSI<30 for short).

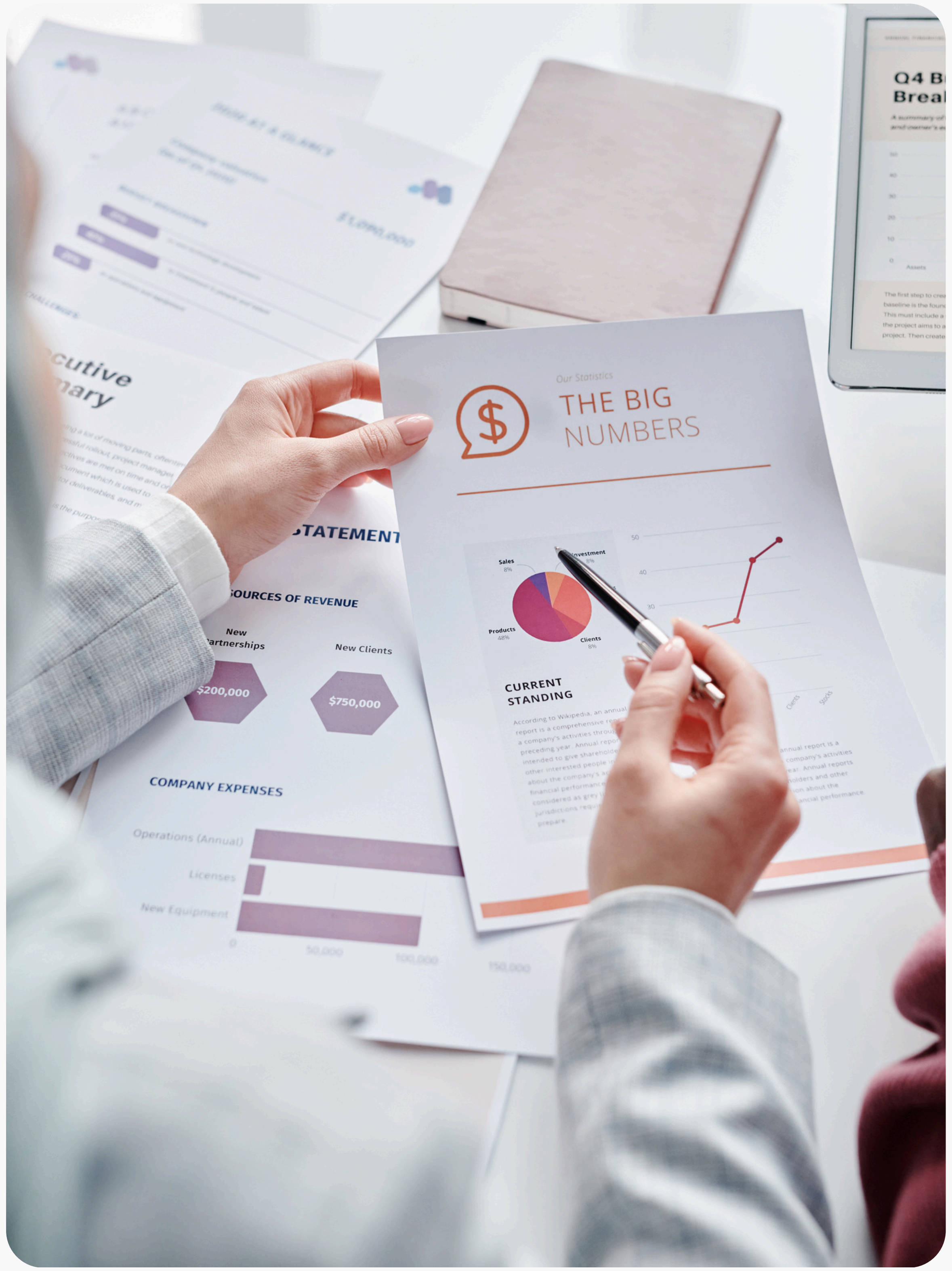
Purpose: Captures profits gradually while protecting remaining position.

End-of-Day Force Exit:

Any open position is exited at the last available close price.

Purpose: Ensures no overnight exposure; aligns with intraday strategy.

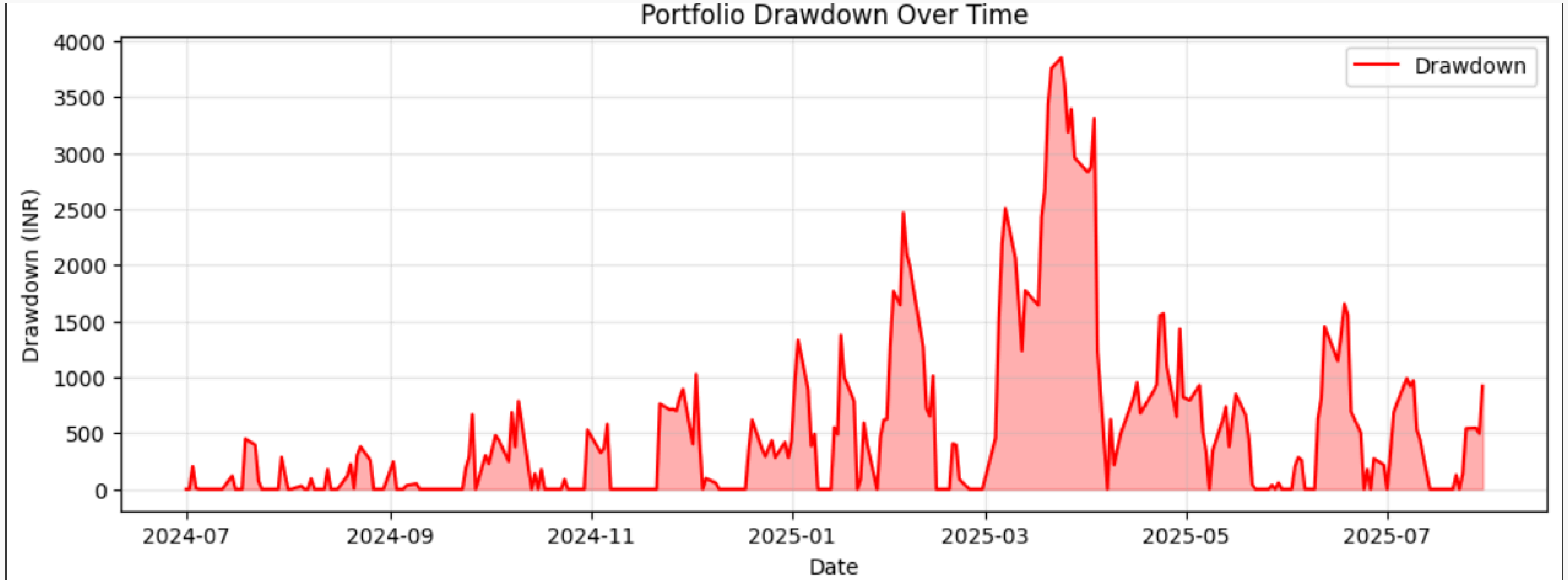
Key Values



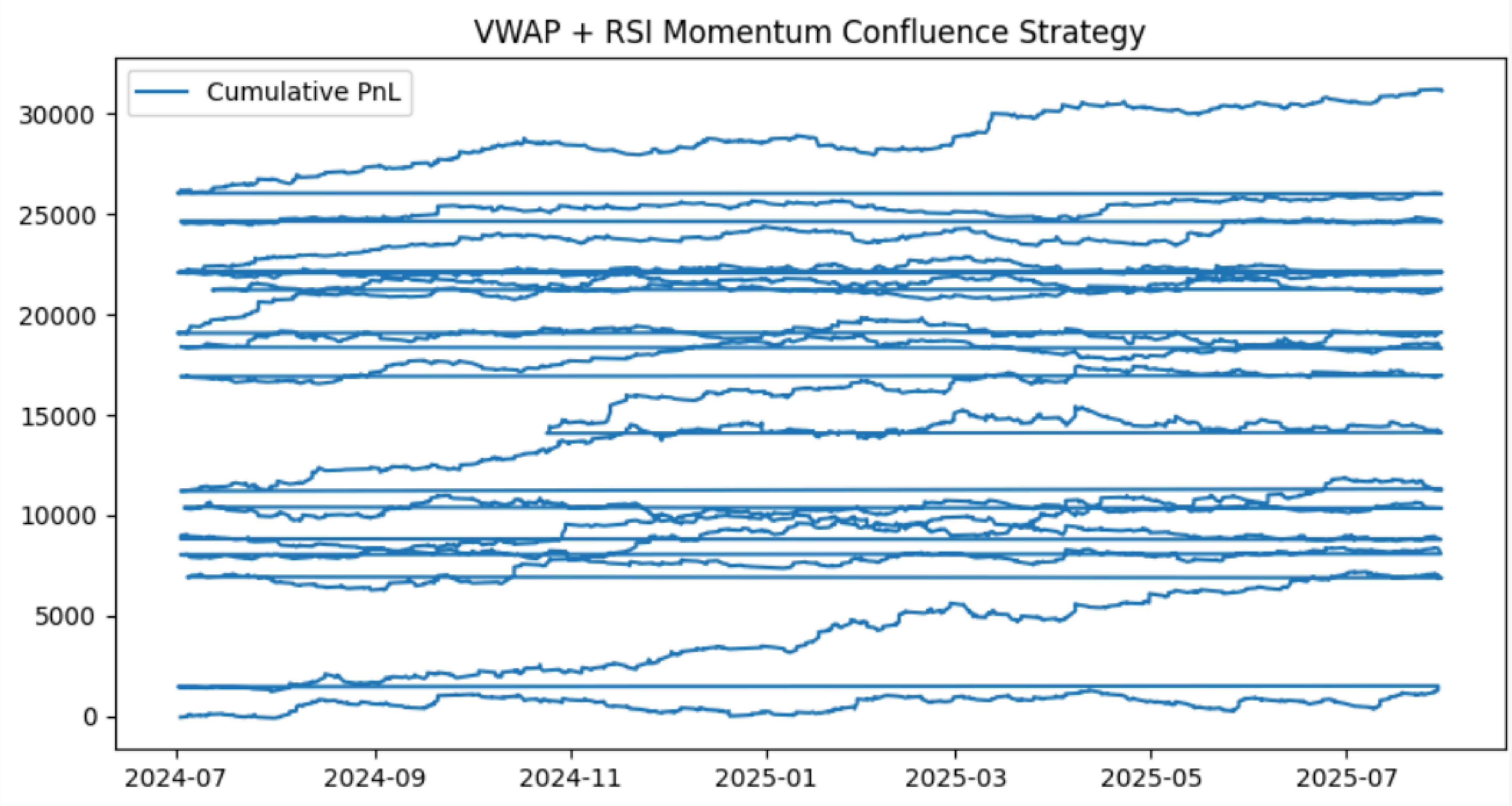
On backtesting on past year data

- **Return%** : 31.14
- **Sharpe Ratio** : 4.15
- **Sortino Ratio**: 8.02
- **WinRate** : 53.28
- **Trades** : 6608
- **Volatility%**: 6.99
- **MaxDrawdown%**: 2.60

Performance Metrics



Cumulative PnL



Thank you