

1. Portfolio Allocation Across 28 Currency Pairs:

Your strategy trades **28 different currency pairs**, including majors like EUR/USD, GBP/USD, USD/JPY, and many cross pairs.

- **Performance-Based Allocation:** Each pair's performance is continuously evaluated through its equity curve.
 - The best-performing pairs receive a larger share of the portfolio, while underperforming pairs receive less or even get "phantom traded" (no real trades).
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2. Distance Metric as a Performance Indicator:

For each pair, your code calculates a **distance metric** from its equity curve:

$$\text{dist}_{pair} = (\text{Equity}_{pair} - \text{LowPass}(\text{Equity}_{pair}, 100)) \times PIP$$

- A positive distance means the pair's trading component is performing well.
 - A negative distance means the pair's performance is below its smoothed average.
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3. Dynamic Capital Allocation per Pair:

- Your strategy computes a **Total Distance** across all 28 pairs.
- Each pair gets a **weight** based on its performance:

$$w_{pair} = \frac{\text{dist}_{pair}}{\text{Total_Dist}}$$

- If a pair is performing poorly, it receives a **weight of 0**.
- If performing well, its weight is capped at **0.3 (Max_Weight)**.
- Capital is then allocated dynamically:

$$\text{Margin}_{pair} = 0.5 \times w_{pair} \times \text{Capital}$$

4. Trading Logic for Each Pair:

For each of the 28 pairs, your strategy runs two different algorithms:

1. RSI-Based Trading (`rsi`):

- Uses the **Relative Strength Index (RSI)** to determine **overbought** and **oversold** conditions.

- Example:
 - **Sell EUR/USD** if $RSI > 70$ and price is below trend filter.
 - **Buy USD/JPY** if $RSI < 30$ and price is above trend filter.
- Risk is managed with **ATR-based stop losses and take profits**.

2. Digital Filter Trading (digi):

- Uses a **digital filter** to find **local peaks and valleys** in price.
 - Example:
 - **Buy GBP/USD** at a detected **valley**.
 - **Sell AUD/USD** at a detected **peak**.
 - Dynamically adjusts stop-loss levels based on **market volatility**.
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5. Why 28 Currency Pairs Matter:

- **Diversification:** By trading 28 pairs, the strategy spreads risk across multiple markets.
 - **Dynamic Focus:** The portfolio dynamically **allocates more capital to the pairs that are trending or performing well**.
 - **Risk Control:** Underperforming pairs (like **GBP/NZD** if it's losing) are allocated minimal capital or even removed from real trading temporarily.
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Example in Action:

- If **EUR/USD** and **USD/JPY** are trending strongly:
 - They will get the **largest share of the portfolio**.
 - If **NZD/CHF** is struggling:
 - It will be **phantom traded** or allocated very little capital.
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Summary:

Your strategy creates a **performance-based, dynamically weighted portfolio** across **28 currency pairs**, adjusting capital allocation based on each pair's trading performance, using:

- **RSI** for mean reversion trades, and
- **Digital filters** for trend-following trades.