Week 4-5 Report

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1. Overview

This report presents the trading logic, performance summary, and insights for a multi-product trading strategy implemented in `Strategy.py`. A diverse set of strategies—ranging from market making and momentum to index arbitrage and pair trading—were deployed on 8 products over 10,001 timestamps.

2. Trading Strategy Logic

SUDOWOODO — Market Making

A classic market-making strategy centered around a fixed fair value. Orders are placed inside or around the bid-ask spread depending on volatility. Position sizing is dynamic based on distance from position limits.

DROWZEE — Momentum + Mean Reversion

This strategy captures short-term overreactions. If price deviates significantly from short/long-term moving averages with volume imbalance confirmation, trades are initiated. Confidence-weighted position sizing enhances performance under strong signals.

ABRA — Z-Score with Trend Confirmation

Price deviation from moving average is modeled using z-score. This is further refined with trend estimation to avoid mean-reversion traps. Entry and exit thresholds adjust based on volatility and trend strength.

SHINX / LUXRAY / JOLTEON — Pairs Trading

Pairs trading strategy monitors the spread between products (e.g., SHINX-JOLTEON). Positions are taken when the spread z-score crosses thresholds and closed when normalized. Hedge ratios are dynamically adapted using recent spread variance.

ASH/MISTY—Index Arbitrage

These indexes are priced based on a weighted basket of underlying products. When the index price significantly deviates from the computed fair value, arbitrage is executed by trading both the index and its components simultaneously. Hedge amounts depend on the weights.

3. Performance Summary

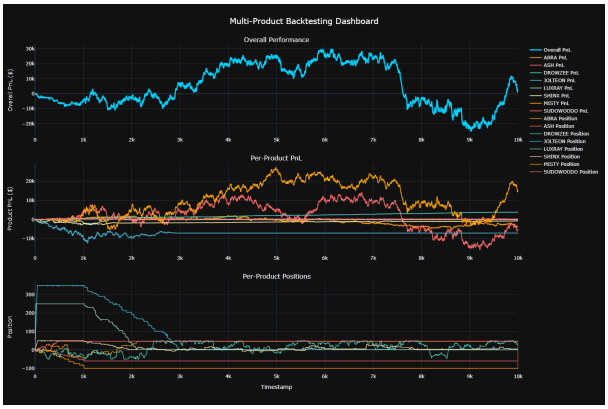
Portfolio Overview

- **Total Products Traded:** 8
- **Final Portfolio PnL:** $**3,388.50**
- **Max Portfolio PnL:** $30,038.00
- **Min Portfolio PnL:** $-25,239.50
- **Overall Drawdown:** $55,277.50

Per-Product Performance

Product	Final PnL	Max PnL	Min PnL	Drawdown
ABRA	-$3,619.50	$2,114.50	-$4,982.50	$7,097.00
ASH	-$4,983.00	$14,277.00	-$15,873.00	$30,150.00
DROWZEE	$3,841.50	$3,866.50	$0.00	$3,866.50
JOLTEON	-$7,077.00	$448.00	-$12,513.00	$12,961.00
LUXRAY	-$114.50	$595.00	-$2,674.50	$3,269.50
SHINX	-$717.00	$242.00	-$2,801.00	$3,043.00
MISTY	$15,822.00	$27,422.00	-$5,478.00	$32,900.00
SUDOWOODO	$236.00	$400.50	-$39.00	$439.50

4. Graphs and PL Trajectory



5. Insights and Improvements

- **Best Performer:** MISTY, driven by consistent arbitrage between LUXRAY and JOLTEON.
- **Worst Performer:** JOLTEON. Pairs trading needs stricter z-score filters or regime-switching logic.
- **ABRA:** Mean reversion struggled under high volatility—consider breakout momentum in the future.
- **Index Arbitrage:** ASH underperformed due to hedging lag. Use tighter latency thresholds.

6. Conclusion

Despite notable drawdowns, the strategy delivered a net positive result with profitable trading in multiple products. Strategies combining volatility filtering, trend/momentum overlays, and hedge-aware execution performed best.