

# Solana PAMM MEV Demo

Validated MEV + contagion analysis (Feb 26, 2026)

- 617 validated fat sandwich attacks
- 112.428 SOL total MEV profit
- Contagion analysis across 7 pools

# Agenda

- Dataset and validation
- MEV patterns and detection
- Top attackers and protocol exposure
- Aggregator vs MEV separation
- Contagion findings
- Key takeaways

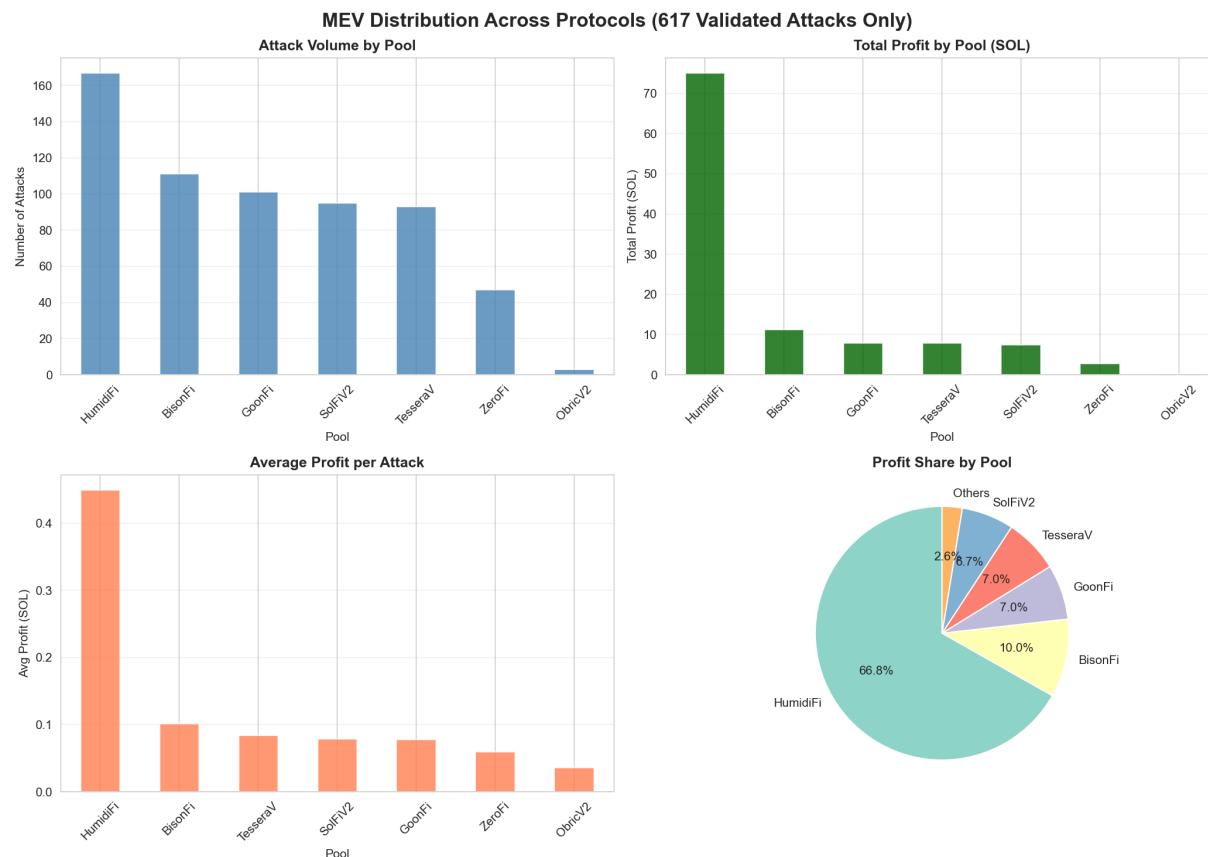
# Dataset and Validation

- Source: Solana pAMM events across 8 protocols
- Initial detections: 1,501 MEV candidates
- Filtered to 617 validated fat sandwich attacks
- False positives removed: 58.9% (failed + multi-hop)

# Key Stats

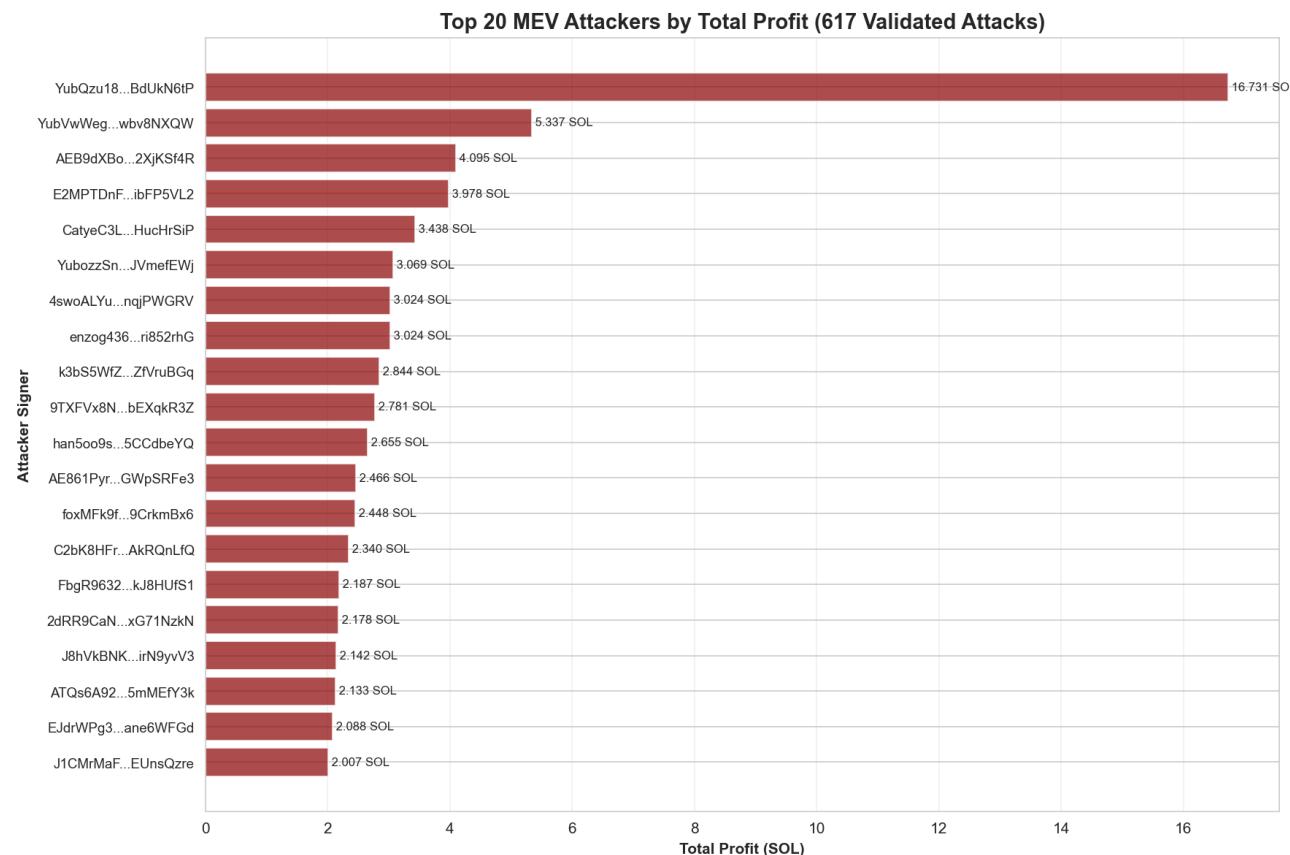
- Total MEV profit: 112.428 SOL
- Average profit per attack: 0.1822 SOL
- Unique attackers: 179
- Top pool (HumidiFi): 66.8% of total MEV

# MEV Distribution by Protocol



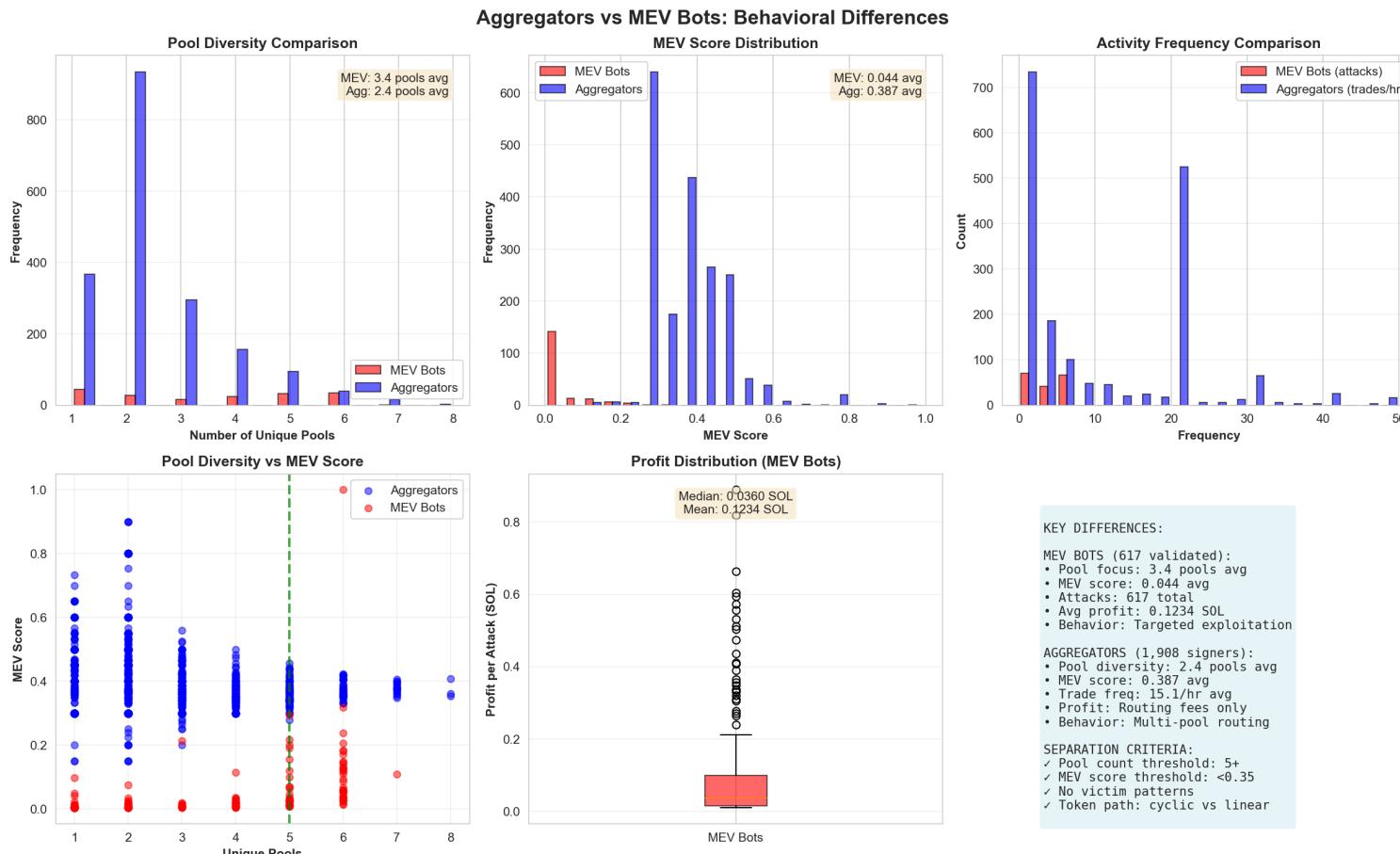
- HumidiFi captures 66.8% of total MEV profit (75.1 SOL)
- BisonFi and SolFiV2 show moderate exposure (10.0% and 6.7%)
- Risk is protocol-specific: profit is not proportional to volume

# Top Attackers by Profit



- Top attacker profit corrected to 16.731 SOL
- Top 20 attackers capture ~49% of total MEV profit
- High concentration implies latency and routing advantages

# Aggregator vs MEV Separation



## KEY DIFFERENCES:

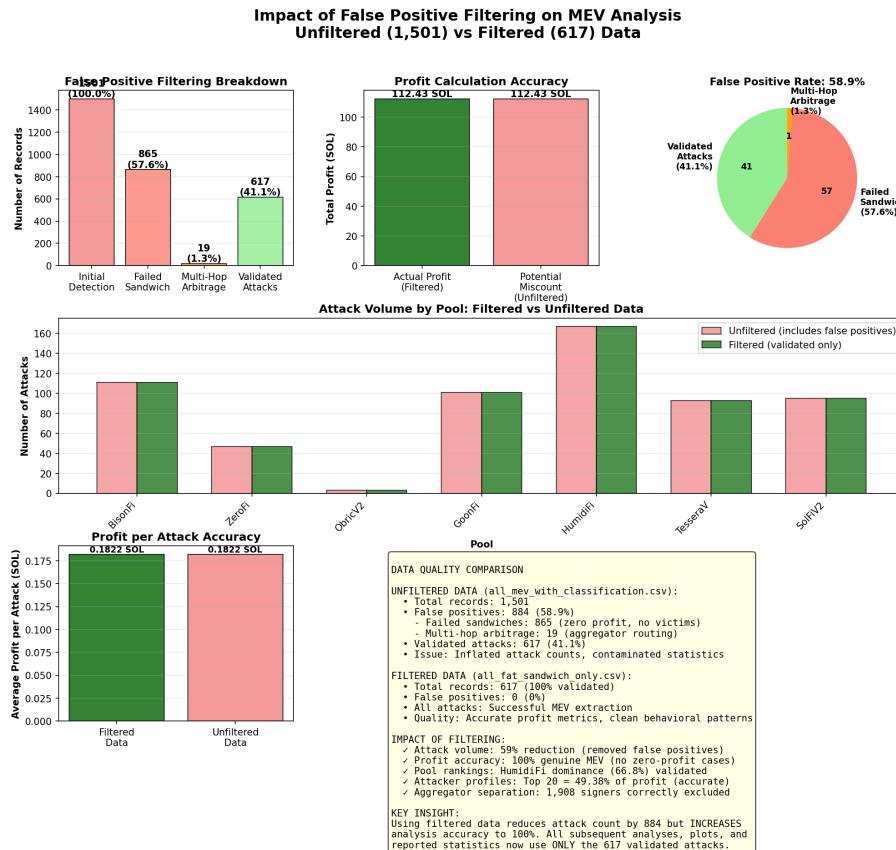
- MEV BOTS (617 validated):**
- Pool focus: 3.4 pools avg
  - MEV score: 0.044 avg
  - Attacks: 617 total
  - Avg profit: 0.1234 SOL
  - Behavior: Targeted exploitation

- AGGREGATORS (1,908 signers):**
- Pool diversity: 2.4 pools avg
  - MEV score: 0.387 avg
  - Trade freq: 15.1/hr avg
  - Profit: Routing fees only
  - Behavior: Multi-pool routing

- SEPARATION CRITERIA:**
- ✓ Pool count threshold: 5+
  - ✓ MEV score threshold: <0.35
  - ✓ No victim patterns
  - ✓ Token path: cyclic vs linear

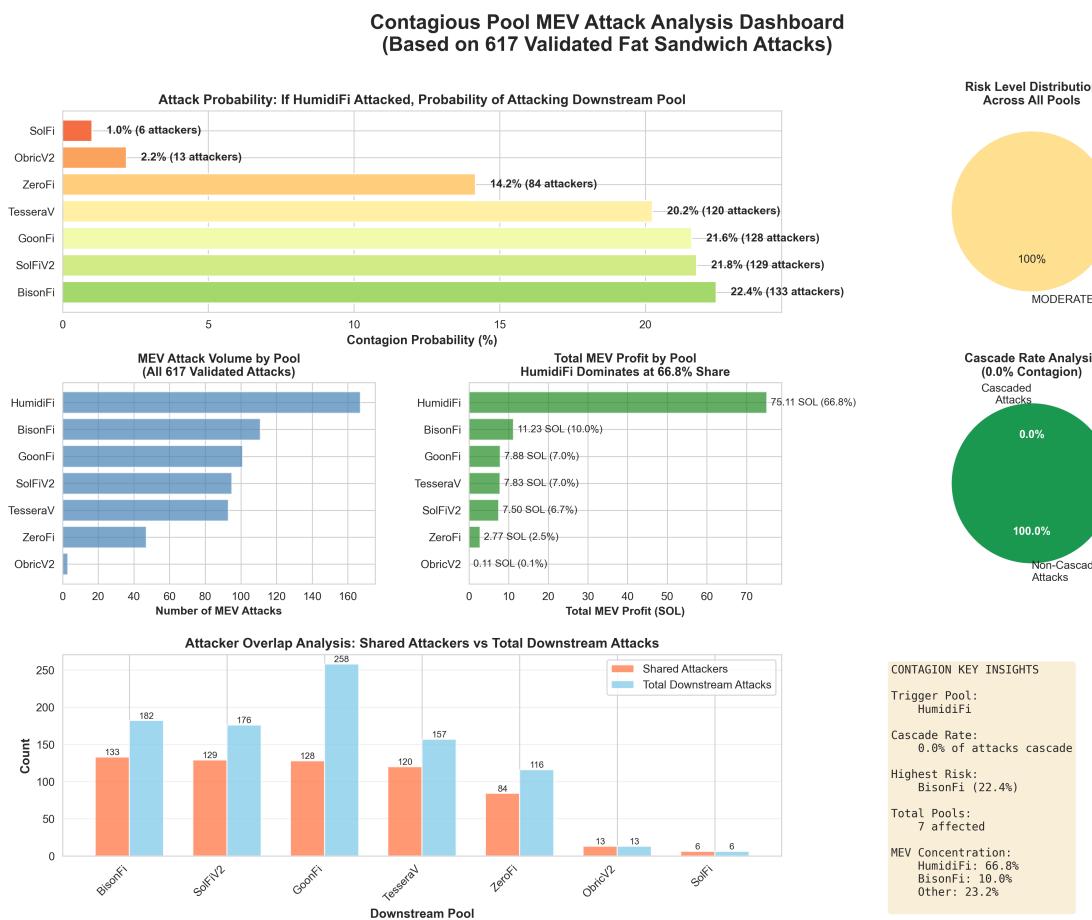
- Aggregators show high pool diversity and low MEV scores
- MEV bots cluster at low diversity and high MEV scores
- Separation validates filtering of aggregators and multi-hop

# Data Correction and Filtering



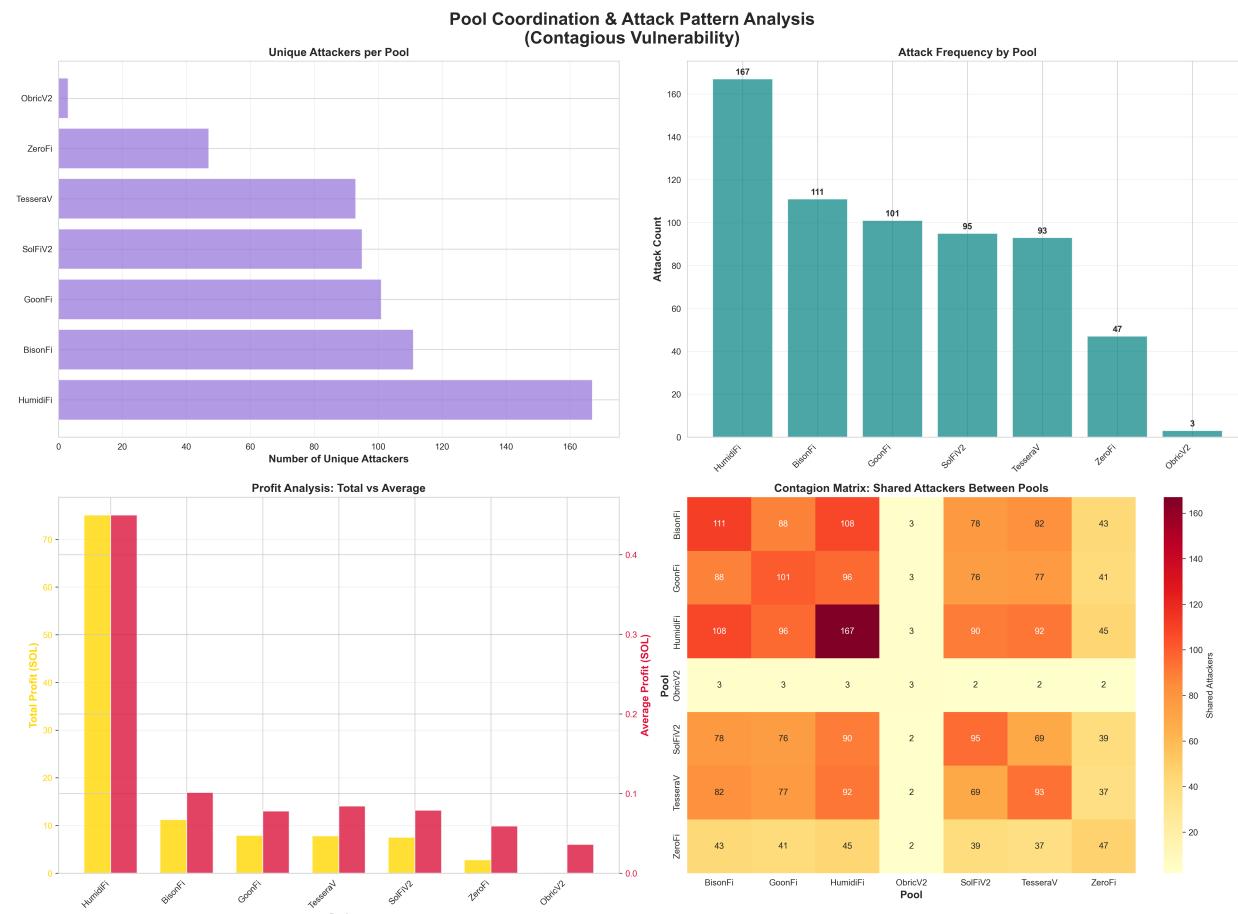
- 1,501 detections reduced to 617 validated attacks
- Removed 865 failed sandwiches and 19 multi-hop cases
- Corrected rankings shift profit concentration upward

# Contagion Analysis Dashboard



- Trigger pool: HumidiFi with highest MEV concentration
- Immediate cascade rate is 0% within 5,000 ms
- Delayed contagion: 20-22% attacker overlap across pools

# Pool Coordination Network (Zoomed)



- Heatmap shows shared attackers between pool pairs
- HumidFi has the widest attacker overlap
- Cross-pool risk is driven by attacker migration, not same-slot cascades

# MEV Pattern and Detection

- Fat sandwich definition: sandwich\_complete > 0 AND fat\_sandwich > 0
  - Failed sandwich: net\_profit\_sol == 0 or null
  - Multi-hop arbitrage: front\_running/back\_running without sandwich\_complete
  - Validated dataset includes only true fat sandwich attacks
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- Filtering removes benign routing and failed attempts
  - Classification logic aligns with profit-positive sandwich patterns

# Demo Takeaways

- MEV is highly concentrated: HumidiFi dominates profit and volume
- No immediate cascade, but 22% delayed contagion via attacker overlap
- Clear behavioral separation between aggregators and MEV bots
- Validated data materially changes rankings and conclusions