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**PROMPT FOR GOOGLE AI STUDIO**

**13F DIFF TERMINAL – NEOBRUTALIST INVESTOR WEB APP WITH INTERNET-RESEARCH ENRICHMENT**

I want to build a premium investor-grade web app that analyzes **two uploaded 13F datasets** for the same manager (or two different managers), generates **clean statistics and a quarter-over-quarter breakdown**, and then **enriches key findings using internet research** (company profiles, recent news, market cap, sector, index membership, recent events, etc.).

The user uploads exactly **two 13F files** (CSV, XML, TXT, or table copy). The app outputs:

1. Normalized holdings tables for each filing
2. A comprehensive QoQ portfolio change report
3. High-signal flags and "what matters" insights
4. Internet-research enrichment for highlighted positions
5. Exportable outputs (CSV + PDF report)

This must feel like a **professional buy-side research terminal**, not a consumer toy.

**1) INPUTS AND DATA NORMALIZATION**

**Upload Inputs**

- File A: "Prior 13F"
- File B: "Current 13F"
- Optional: Manager AUM (if not present in filing)
- Optional: Fund name, CIK, filing quarter labels

**Required Parsing**

Parse and normalize from common 13F formats:

- XML information table
- CSV or Excel exports
- Text tables

**Standardize columns (create if missing)**

- Issuer Name
- Ticker (best-effort, may require mapping)
- CUSIP
- Shares / Principal Amount
- Market Value (USD)
- Put/Call (if present)
- Discretion type (if present)
- Voting authority fields (if present)
- Filing period date and filing date (if present)

**Critical normalization rules**

- Deduplicate line items (same issuer, ticker/CUSIP) across sub-accounts if needed
- Resolve ticker mapping from CUSIP when possible (best-effort)
- Detect and warn if:
    - File formats differ materially
    - One file is incomplete
    - Values appear to be in thousands (13F value is often reported in thousands) and normalize consistently
- Produce a “Data Quality” panel listing:
    - Count of positions parsed
    - % of positions mapped to tickers
    - Potential duplicates
    - Missing values

**2) CORE STATISTICAL OUTPUTS**

**A) Portfolio Summary Statistics (each quarter)**

Compute for each filing:

- Total reported market value (13F value)
- Number of positions
- Top-10 concentration (% of portfolio)
- Top-5 concentration
- Herfindahl-Hirschman Index (HHI) concentration score
- Median position size
- Long tail metrics:
    - % of positions under 0.25%
    - % of portfolio in positions under 1%
- Turnover proxy between the two filings:
    - % of portfolio value in adds + trims + exits + new positions (acknowledge limitation due to 13F timing)

**B) Sector / Industry Breakdown**

Compute sector breakdown by % of portfolio value using a reliable classification (GICS/NAICS/best-effort mapping via research):

- Sector weights in each quarter
- QoQ change in sector weights
- Top sector contributors to change (decomposition)

Also compute:

- Industry group concentration within sectors
- “Hidden concentration” (top issuer per sector)

**C) QoQ Change Table (position-level)**

For each issuer/ticker:

- Prior value, current value
- Absolute change ($)
- % change in value

- Prior weight, current weight
- Change in weight (bps)
- Estimated shares change (if shares available)
- New / Add / Trim / Exit classification:
    - New position: prior = 0, current > 0
    - Exit: prior > 0, current = 0
    - Add: shares or value up materially
    - Trim: shares or value down materially

Include a robust "materiality threshold" control:

- Default: flag moves above max(25 bps, $10m, 25% change) configurable in UI

**D) Conviction and "Interesting Position" Flags (high-signal heuristics)**

Generate flags with transparent logic. Examples:

**Size and concentration flags**

- New top-10 entry
- Position becomes > X% of portfolio
- Top-1 position grows/shrinks materially
- Highly concentrated portfolio (top-10 > 50%, HHI high)

**Conviction vs liquidity / size flags**

- **Small/mid-cap conviction**: market cap is small relative to fund 13F AUM
    - Compute: Fund 13F value / issuer market cap
    - Compute: Position value / issuer market cap (ownership proxy, not true ownership)
- "Crowding risk proxy": position is large relative to typical liquidity (if ADV available via research)
- "Microcap in large fund": issuer market cap below threshold, position weight above threshold

**Change intensity flags**

- Largest adds by $ and by %
- Largest trims by $ and by %
- “Step-change adds”: position size doubles or more
- “Initiation with size”: new position above X% immediately
- “Exit of core holding”: exit from top-10 or long-held (if history not available, label as unknown)

**Style and factor tilts (best-effort)**

Using internet data where possible:

- Market cap bucket exposure (mega/large/mid/small) and QoQ shifts
- Value vs growth proxy (P/E, P/B, EV/EBITDA where available)
- Profitability and leverage proxies (margins, debt metrics)
- Momentum proxy (3m/6m/12m return)
- Country/ADR exposure

**Corporate action / event flags (internet-enriched)**

- Earnings date proximity (if recent)
- M&A rumors/announcements
- Activism / 13D/13G activity (if discoverable)
- Major litigation/regulatory headlines
- Guidance cuts/raises

All flags must show:

- The metric values that triggered it
- The threshold used
- A short “why it matters” explanation

**3) INTERNET RESEARCH ENRICHMENT**

For each of the “interesting” positions (default top 10 by signal score, user adjustable), pull and summarize:

- Company description (1–2 lines)
- Sector and industry classification
- Market cap
- Recent price performance (3m/6m/12m)
- Latest major news themes (last 30–90 days) with source titles and dates
- Next known catalysts (earnings date if available, major events)
- Basic valuation snapshot (best-effort)
- Index membership (e.g., S&P 500 / Russell 2000) if reliably discoverable

Rules:

- Cite sources clearly
- Separate “facts from sources” vs “model inference”
- Avoid fabricating data if not found; label unknowns explicitly

**4) OUTPUTS AND UI (NEOBRUTALIST INVESTOR TERMINAL)**

**UI Requirements (premium neobrutalist)**

- Heavy typography, sharp edges, thick borders
- High contrast, grid-aligned dashboard layout
- Minimal palette with one accent color
- Large whitespace blocks separating modules
- Motion that feels “expensive” (subtle transitions, step-based progress)

**Persistent creator banner**

Very noticeable banner:

- “Created by Dave Wang” with hyperlink to www.davewang.ai
- Nearby: “Follow me for more on LinkedIn” with link to https://www.linkedin.com/in/davewangmia/

**App pages**


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**A) Landing**

- Hero headline: “13F Diff Terminal”
- Two upload cards: Prior 13F and Current 13F
- Optional fields: fund name, quarter labels, optional AUM override
- Single CTA: “Analyze”

**B) Processing**

Step indicator:

- Uploading
- Parsing & Normalizing
- Mapping tickers/sectors
- Computing QoQ diffs
- Research enrichment
- Building dashboard

**C) Results Dashboard (modules)**

1. **Portfolio Overview**
    - AUM (13F value), #positions, concentration metrics, HHI
2. **Sector Exposure**
    - Sector weights (Q1 vs Q2) + delta
3. **QoQ Movers**
    - Adds, trims, new, exits with filters
4. **Conviction / Flags**
    - Ranked list with explainable thresholds
5. **Issuer Deep Dives**
    - For top flagged names: profile + news + catalysts
6. **Data Quality & Assumptions**
    - Mapping coverage, caveats about 13F timing, value units, missing tickers

7. **Exports**
    - CSV export of normalized tables and diffs
    - PDF “one-pager” report summary

**Interaction requirements**

- Search by ticker/issuer
- Filters:
    - New/Add/Trim/Exit
    - Sector
    - Market cap bucket
    - Min position weight
    - Signal score threshold
- Click-through:
    - Clicking a name opens a deep dive drawer with enriched research
- Sorting:
    - By change in weight, $ change, % change, signal score

**5) ANALYTICS ENGINE: SIGNAL SCORING**

Compute a composite “Signal Score” per position to rank what deserves attention:

- Weight change (bps) scaled
- Absolute $ change scaled
- New position size boost
- Concentration boost (top holdings)
- Small/mid-cap conviction boost (fund size vs issuer size)
- Event/news catalyst boost (if relevant, based on research)

Expose the weights in a simple “Advanced Settings” panel with defaults.




**6) DISCLOSURES AND CAVEATS**

In a dedicated block, the app must explain:

- 13F is quarterly and delayed; it is not real-time
- Options/shorts generally not fully visible
- Share changes can reflect price movement as well as trading
- Ticker/CUSIP mapping may be imperfect; show confidence/coverage
- Market cap and fundamentals are time-sensitive; show "as-of" dates from sources

**7) IMPLEMENTATION DELIVERABLE**

Generate whatever code, components, and structure are needed to implement this web app consistent with the specification above, including:

- Frontend UI components and layout
- Backend ingestion/parsing
- Computation layer for portfolio statistics and diffs
- Research enrichment pipeline
- Clear data models and JSON schemas

The output should be production-grade, modular, and maintainable.

**Add-on: Statistical analyses you were "probably missing"**

Include these by default (and show them clearly in the dashboard):

- Concentration metrics (Top-5/Top-10, HHI)
- Contribution-to-change decomposition (which names drove sector and portfolio changes)
- Market cap bucket exposure and QoQ drift
- Turnover proxy and "active share proxy" between quarters
- Liquidity stress proxy (position size vs ADV, if available)
- Crowding proxies (if discoverable via ownership/ETF inclusion/news mentions)

- Risk framing (sector bets, single-name concentration, style tilts)