

Hedge Fund Holdings Tracker

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Task:

Find hedge funds which have NVDA holdings

User Profile

- Role: Hedge fund client manager
- Context: Client facing role with a primarily commercial focus. Not necessarily technical
- Objective: Quickly identify which hedge funds hold a specific asset (e.g. NVDA), potentially recommend assets for the client to buy
- Requirements:
 - Fast, intuitive access to information
 - Clear, well structured presentation
 - Easily digestible insights with minimal complexity

Data Sourcing

- Need a source of hedge funds and their holdings
- This can be difficult as they are private entities which do not publish their live data
- Ideally need an API so data can be programmatically updated
- Queried AI apps, asked “Whats the best public/freely available data source I could use?”
- Also asked friends who work in the finance industry!
- Found:
 - Paid services (E.g. WhaleWisdom)
 - Static pages (E.g. HedgeFollow)
 - All sourced their data from SEC EDGAR database using 13F filings

SEC EDGAR Database

- 13F forms are filed by hedge funds with over \$100M in US holdings
- Has an API
- Initially tried to use the API and manually parse the 13F data using AI and VSCode/Copilot
- Found an open source python package specifically aimed at processing EDGAR data ([edgartools](#))
- Caveat: The 13F filings are only submitted on a quarterly basis
- Caveat: The holdings section in the 13F filings contain multiple security types including shares and options. The total value will be a combination of these
- Caveat: 13F filings are due 45 days after quarter end, so data can be up to ~4.5 months lagged

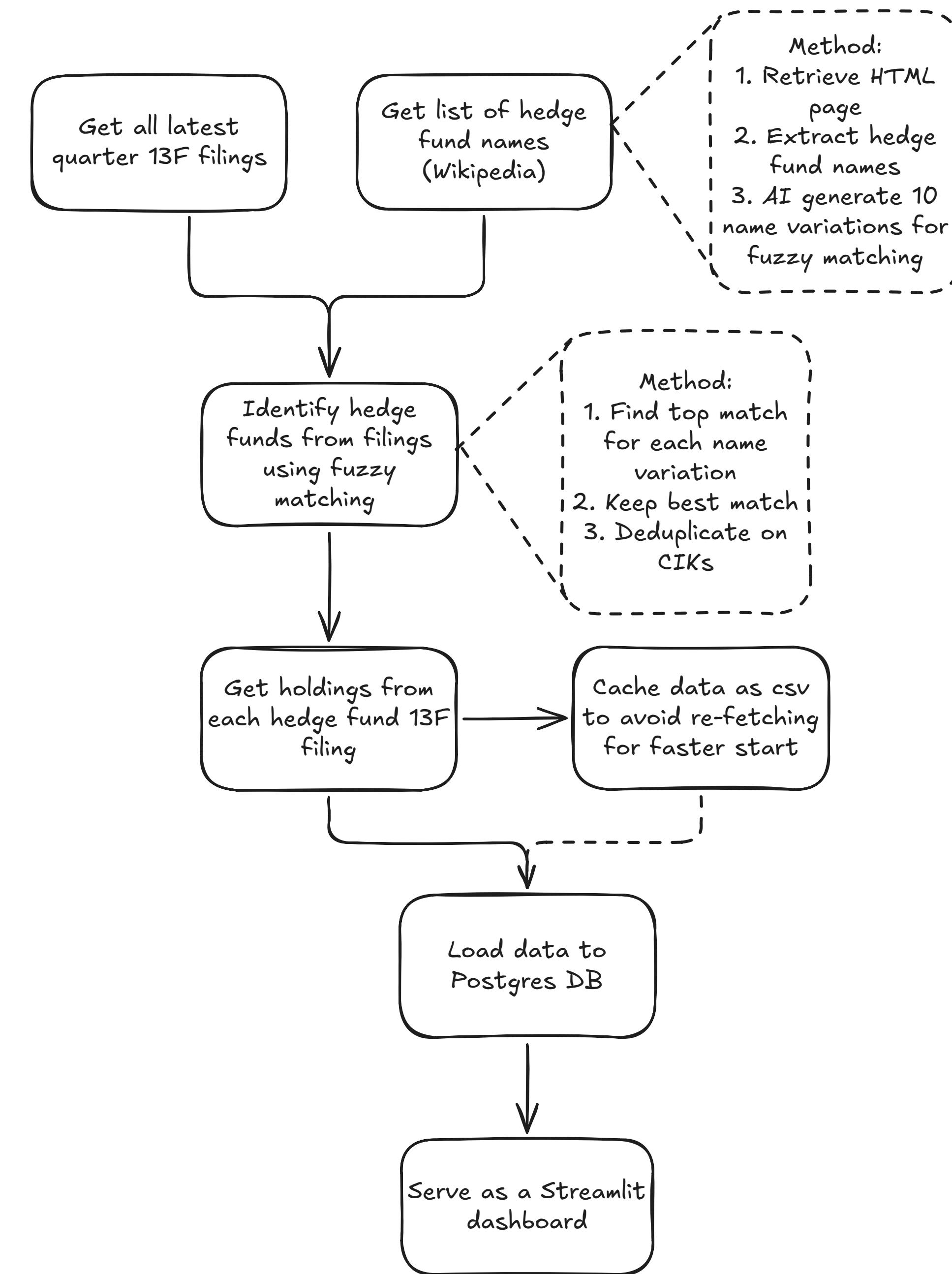
Design Considerations

- The user may want to look at other holdings than just NVDA
 - The solution must support searching for different assets
 - The data must be as up to date as possible
 - Data must be easily refreshable to retrieve new information
 - A use case for this might be to recommend purchases to hedge fund clients
 - A suggestion might be top holdings of other hedge funds who also hold NVDA

Architecture

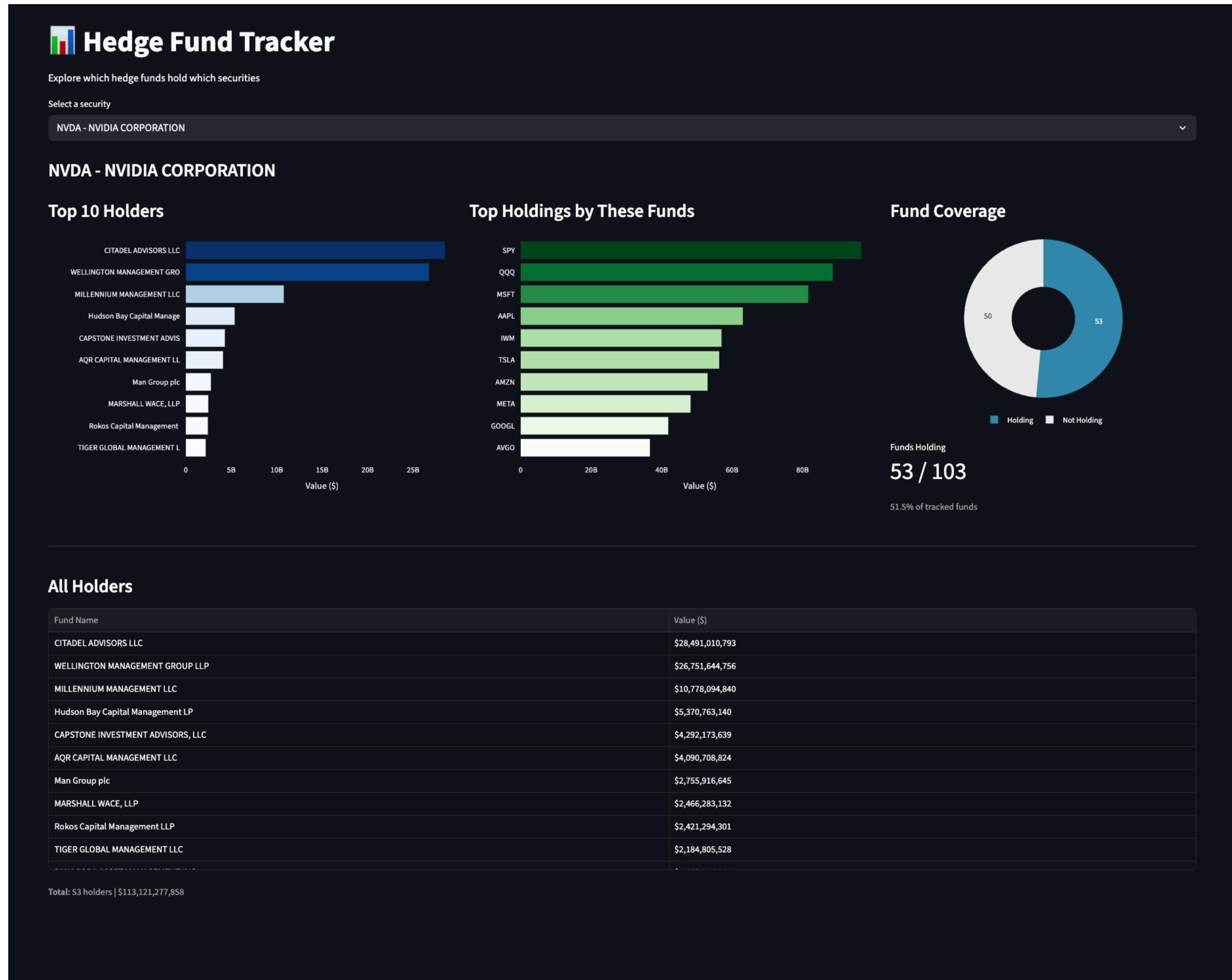
- Assumptions:

- The user would be managing/monitoring a specific set of hedge funds - For the purposes of this exercise the hedge fund on the "List of Hedge Funds" Wikipedia page was used
- The relevant hedge funds have significant US holdings and would therefore be required to submit 13F filings.



Solution

A filterable, updatable dashboard showing holders of a given asset, top holdings of funds who hold the asset, and proportion of monitored funds who hold the asset



Considerations for production / further work

- Use a paid service to simplify data acquisition
- Automatically run the data download on a schedule to keep the information up to date (could be deployed as a lambda function)
- Allow the user to update the list of tracked hedge funds - replace the Wikipedia source with a configurable watchlist
- Use more data sources to capture data from funds with <\$100m assets or non-US funds (some paid services include this)
- Build a graph database to better map the relationship between funds and assets, and also to track inherited holdings for fund-of-funds
- A collaborative filtering/recommendation ML model to recommend purchases automatically
- Add historical tracking to show position changes over time

AI Usage

- AI apps (Claude and GitHub Copilot) were used for:
 - Generating print statements for status updates
 - Researching available data sources
 - Generating a scraping function for the Wikipedia HTML page (Pasted the whole HTML into the prompt)
 - Initial attempt at manually parsing EDGAR data
 - Setting up the Postgres DB and writing some of the queries
 - Generating a skeleton for the Streamlit app (Created the image on the right and included it in the prompt)
- Claude chat histories:
 - <https://claude.ai/share/52284fae-d93d-43dc-bf8b-69daf5f53955>
 - <https://claude.ai/share/02bc5ca7-56a2-4027-88fe-63d8eb6ed966>

