Project 3:
The Fate of FAANG

Group 5

Theme and Purpose

- FAANG refers to the stocks of five major U.S. tech companies: Facebook/Meta, Apple, Amazon, Netflix and Google.
- As of January 2024 their combined market cap is over $7 trillion.
- Their performance is key to understanding investor trends in both the tech industry and the U.S. economy.

Approach and Overview

Data Source:

- Stock data from 1/1/2013 - 12/31/2023
- Data pulled from free API of Alpha Advantage

Technologies Used:

- Python (API)
- Pandas (Transformation)
- PostgreSQL via SQLAlchemy (Database)
- Flask (Backend)
- Plotly (Visualization)

Data Wrangling

Approach and Techniques

- Pulled 20 years worth of daily (open, high, low, close, volume) data.
- Each "FAANG" stock and the S&P 500 (Vanguard).
- Read all data into a Pandas dataframe to filter to the 10-year timeframe that better suited our analysis needs.
- Separated imported data into several different dataframes and loaded them into a PostgreSQL database as tables.
- Used SQLAlchemy to access our database and load it into JSON format.

Ethical Considerations

- We encountered an ethical consideration early on in this project during the data collection stage.
- Originally, we were going to use data from Financial Modeling Prep's stock market API.
  - Their free license disallowed their data to be displayed without express consent.
  - We switched over to Alpha Advantage's API as a result, which did not have the same restriction.

Visualizations

(See website for details)

Takeaways

- FAANG beat the market (S&P 500), until 2022, when it didn't.
  - Almost all of the time period was during zero-interest rates from the Federal Reserve.
- FAANG stocks were volatile even within a day.
  - Value of stock frequently depended on time of day when sold.
- Trade volume *increased* as stock prices *decreased*.
  - Some has to do with "stock split" strategy at certain points.
  - High volume shows quick loss of confidence in FAANG stocks on those days.

Questions?

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