

# Quantitative Analysis Platform

Revolutionizing Investment with AI-Powered  
Insights



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# RECAP FROM INTERIM

- PROJECT OBJECTIVE
  - USE CASE
- HIGH-LEVEL DESIGN
  - FILE STRUCTURE
- INITIAL DATA STORAGE



# Detailed Level Design: Top 3 Priorities (Completed)

FOCUS ON: Display in company details page



## 1. Data Storage & Financial Data Acquisition

- + cover more financial data fields (historical data)

## 2. News, Sentiment Analysis Integration

Used LLM to craft :

- + News Summary
- + Sentiment Analysis
- + Important Events for company

## 3. Graph & Basic Financial Trend Visualization

- + Enabled the daily generation of price chart
- + Created API endpoints for chart data.

01

# Overview of completed features

Mainly on priority 2 & 3.



# Latest News and Sentiment Analysis using LLM

## News Summary

**Overall News Summary:** The recent news surrounding NVIDIA is a mixture of *positive* and *negative* factors. A **key event** is the release of the Q1 earnings report, which is a major focal point for investors and analysts. The report will provide insights into the performance of Nvidia's product lines, specifically the **Blackwell lineup**. Additionally, trade tensions with the EU and export controls on China create uncertainty. However, the announcement of the delay to tariffs from the EU trade deal has caused market optimism. Overall the semiconductor company is trying to navigate political and trade headwinds while keeping investors updated about its market performance.

## Sentiment Report

**Overall Sentiment:** Mixed (Score: 55/100)

### Reasons for Sentiment:

The sentiment is mixed due to the interplay of *positive* and *negative* factors. **Positive factors** include the anticipation surrounding the Nvidia Q1 earnings and Blackwell lineup, suggesting potential growth in the AI chip market. Furthermore, the recent delay on EU tariffs and any signs of potential trade deal developments is a **positive driver**. **Negative factors** include concerns surrounding export controls on China, which could impact Nvidia's revenue, as highlighted by the company's CEO. Moreover, trade tensions between the US and the EU, alongside general market turmoil, are adding to uncertainty. The score of 55/100 reflects a slightly uncertain outlook, given the mixed bag of good and bad news with some possible drivers such as the US-EU trade deal negotiations.

**Market Outlook:** The near-term market outlook for NVIDIA is *Mixed*, with potential for volatility due to the upcoming Q1 earnings report and geopolitical factors. The reaction to these will heavily influence the market sentiment.

The market outlook for NVIDIA is influenced by several key factors. The Q1 earnings report, released after market close on Wednesday, May 28, will be a significant catalyst. **Financial analysts are anticipating major developments**, and investor reactions will move the company's stock. The performance of the Blackwell lineup, as well as any guidance on future sales projections, is crucial for investors. Trade relations with China remain a key issue. While the announcement of EU tariffs being paused gave markets a positive boost, ongoing trade tensions and export controls, highlighted by NVIDIA's CEO, create uncertainty. This is further complicated by general market instability due to concerns such as the US credit rating downgrade.

## Key Products/Services/Subsidiaries

- AI Chips (Data Center GPUs)
- Blackwell (upcoming GPU architecture)
- Semiconductor products

## Key Financial Dates & Events

Here are some key financial events and their potential impact:

- Date:** 2025-05-28  
**Event:** Q1 Earnings Report Release  
**Impact:** The release of the Q1 earnings report, including information on the Blackwell lineup, will significantly impact market sentiment and stock price. Strong earnings and positive guidance could boost investor confidence, while disappointing results or negative outlook could lead to a decline.
- Date:** 2025-05-23  
**Event:** Trump proposed 50% tariff on EU imports  
**Impact:** Trump's actions had the potential to destabilize global trade relations which could disrupt the supply chains and manufacturing processes. Any trade war can potentially diminish the market outlook for NVIDIA Corporation.
- Date:** 2025-06-01  
**Event:** Tariff deadline delayed  
**Impact:** The delay of the EU tariffs has increased optimism for a potential trade deal which increased market confidence.

*This report is AI generated, so there might be inaccuracies with data reported. Please do your own research to cross check for reliability.*

## Financial Trend Graphs (Priority 3):

Interactive charts generated, visualizing historical price across time.

## Financial Data Display (Priority 1):

Showcases the fetched financial data (OHLCV from DB, ROI, EPS, etc.) directly from the financial\_data table, ingested via yfinance.

## News Summary & Sentiment Analysis (Priority 2):

News Summary and Sentiment analysis with LLM-derived sentiment scores (e.g., positive, negative, neutral).

# Priority 1 & 3 Features



Priority 1: Data Storage & Financial Data Acquisition

**(done in interim)**

1. Database Management
2. Core Data Models
3. Automated Data Ingestion for **Basic Financial Data**
4. Basic Dashboard UI for **Basic Financial Data of Companies (dashboard.html)**

**(completed after interim)**

1. Automated Financial Data Ingestion for **Historical Financial Data**
2. Basic UI for **Display of All Financial Data from DB (company\_details.html)**

**(completed after interim)**

Priority 3: Graph and Basic Financial Trend Visualization

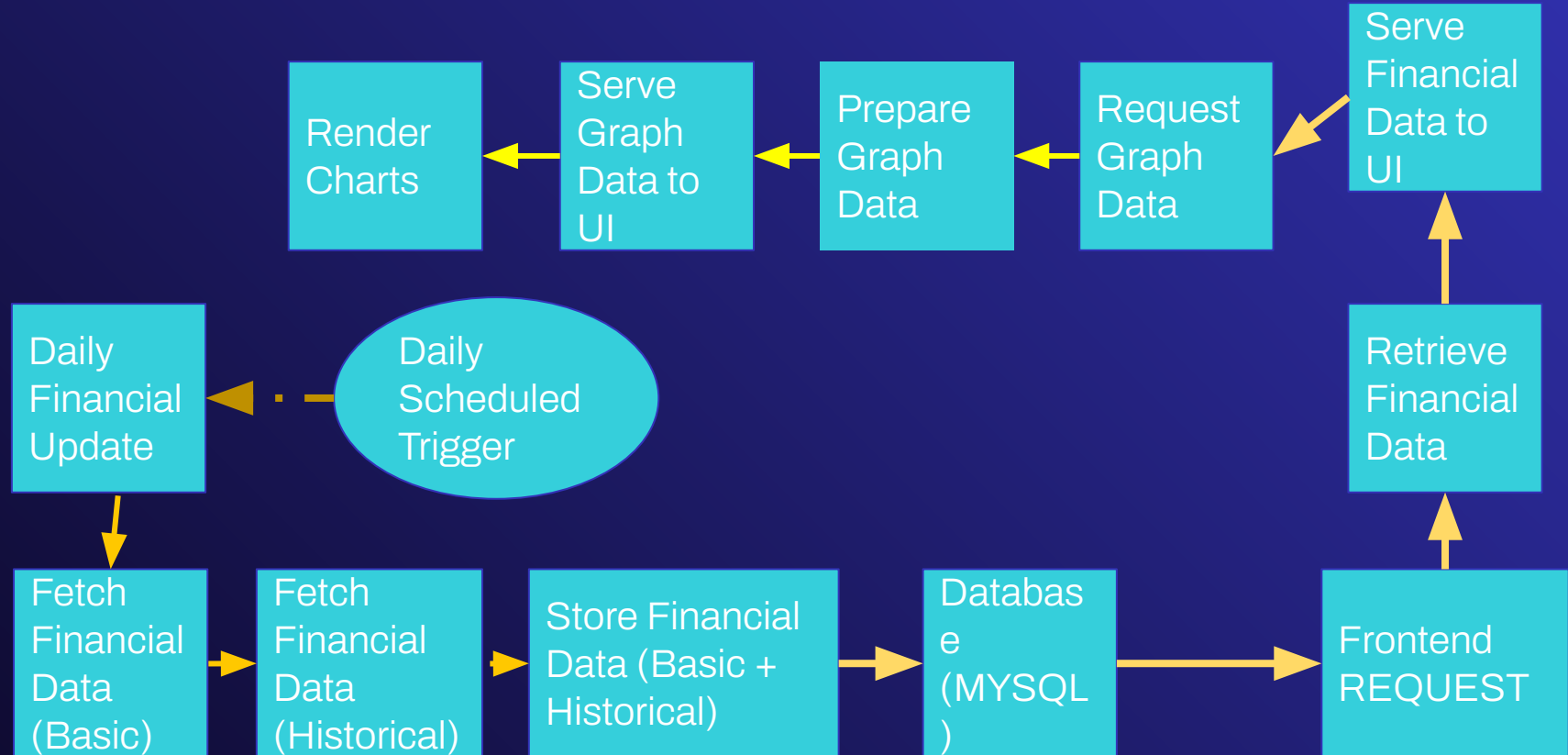
## 1. Dynamic Chart Data APIs:

Backend endpoints (backend/routes/graph\_routes.py) to provide time-series data for charting (e.g., daily, weekly, monthly, yearly).

## 2. Interactive Frontend Graphs:

Integration of [\(frontend/static/js/company\\_details.js\)](#) for visualizing price trends on the company\_details.html page.

# Priority 1 & 3: How It Works (Simplified Code)





# Priority 2 (Components)

*(completed after interim)*

## 1. Automated News Data Acquisition.

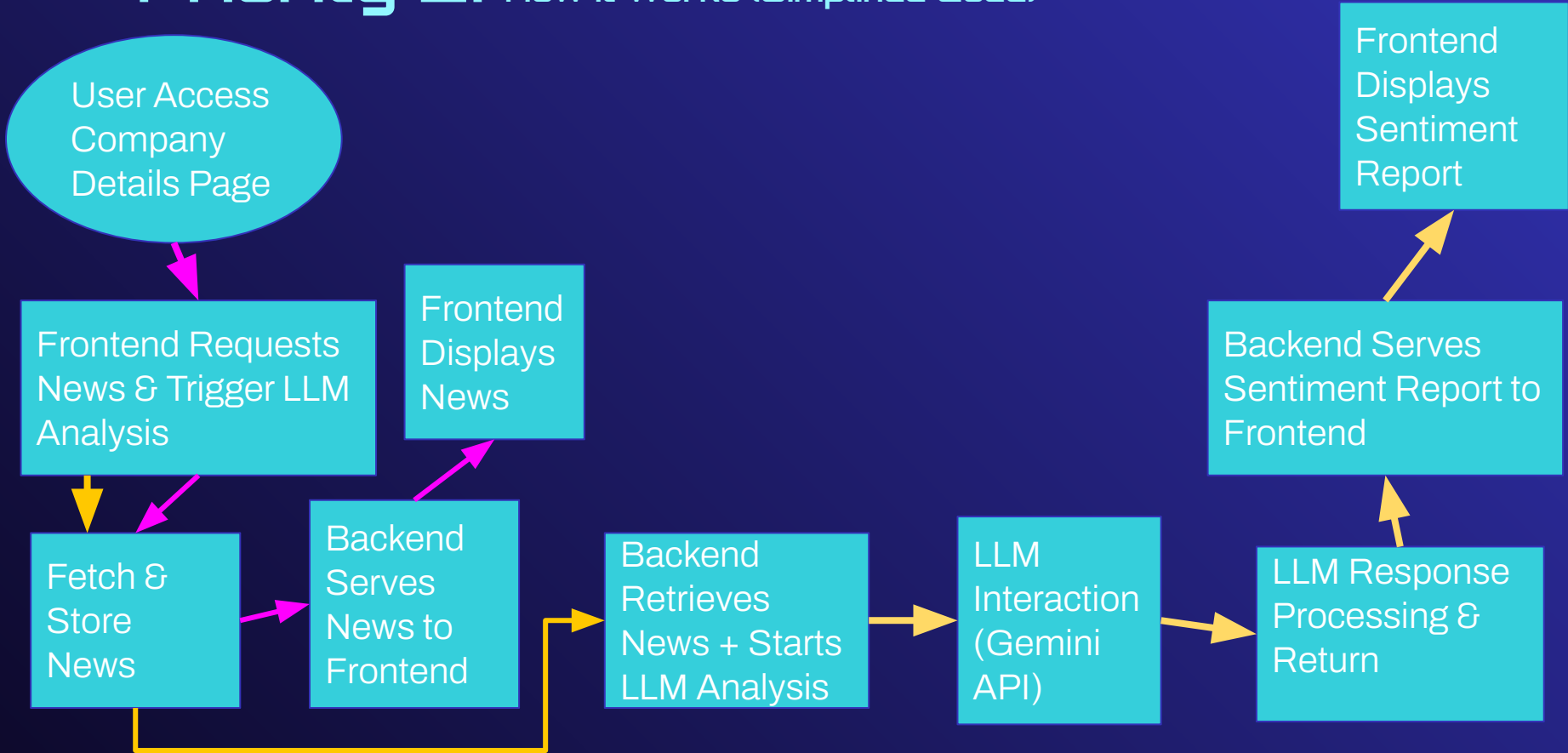
Fetches both company-specific news (via yfinance news module) and industry-related news (via The Guardian API).

## 2. Intelligent News Processing:

Integrates Google Gemini API(gemini-2.0-flash-lite) for advanced Natural Language Processing (NLP) to analyze news articles.

- Dynamic News Summarization:
  - a. Generates concise summaries of news content to provide quick insights.
- Automated Sentiment Classification
  - a. Identifies, gives a score, classifies news sentiment (Positive, Negative, Neutral, Mixed) crucial for investment decisions.
- Report Generation:
  - a. Sentiment analysis results, related company events, etc. are used to enrich investment analysis reports.

## Priority 2: How It Works (Simplified Code)



# Free Version of Public APIs Used

## Yahoo Finance

(via `yfinance` Python library)

Purpose: Comprehensive historical and daily financial data acquisition, while querying for company-specific news based on company TICKER symbol

Retrieves: **OHLCV**, market cap, dividends, earnings dates, other company financials and company-specific news

## Guardian API

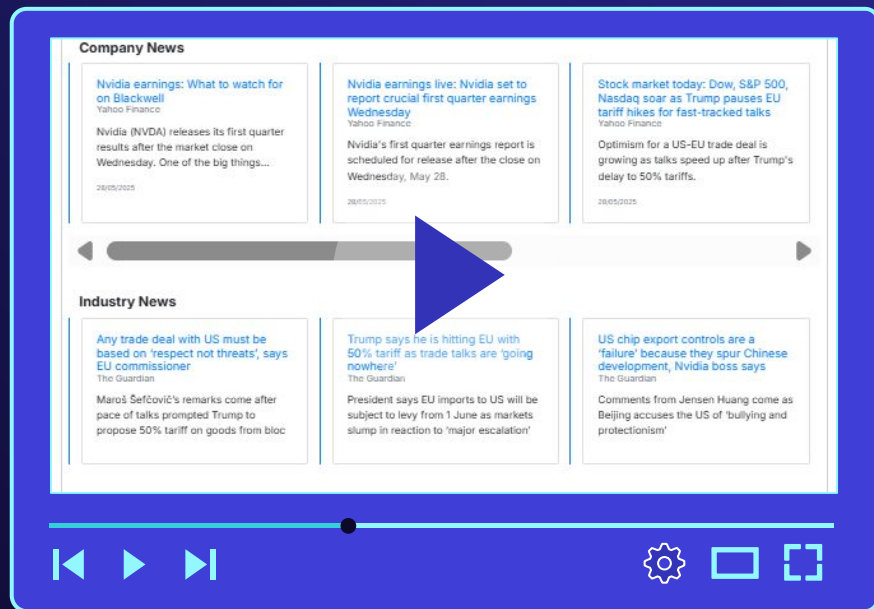
Purpose: Retrieval of industry-specific news articles relevant to companies

## Google Gemini

Purpose: Powers core LLM functionalities (gemini-2.0-flash-lite-model):

1. News summarization
2. News sentiment analysis (classifying sentiment: positive, negative, neutral)





# DEMO



# Thank you!

Do you have any questions?

CREDITS: This presentation template was created by **Slidesgo**, and includes icons, infographics and images by **Freepik**

