Stock Market Trends During AI-Driven Market Disruptions

(DeepSeek AI vs AI related companies)

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Section 1

Extensions proposed

Wiki Page -

List of Stock Market Crashes and Bear Markets

Why
Helps analyze historical stock market downturns and compare DeepSeek AI's impact. Provides context for whether DeepSeek AI caused a true crash or a normal correction.

What
Extract top 10 largest stock market crashes based on % market drop and compare DeepSeek AI's stock movement with past financial crises.

How
Clean & analyze data to find trends in historical crash events.

Additional webpage -

SEC Filings

Why
SEC Filings provide financial disclosures & regulatory events impacting stocks. Helps assess investor sentiment and possible financial warnings.

What
Extract relevant SEC filings(market-moving reports) to compare stock price behavior before & after major AI-related SEC disclosures.

How
Use SEC EDGAR API to fetch company filings mentioning "AI" or "DeepSeek AI."

Outcome from the extension

Wiki Page -

List of Stock Market Crashes and Bear Markets

Benefits:
Unlike APIs that provide real-time or short-term stock movements, Wikipedia's historical crashes dataset allows us to compare DeepSeek AI's impact to decades of financial crises.
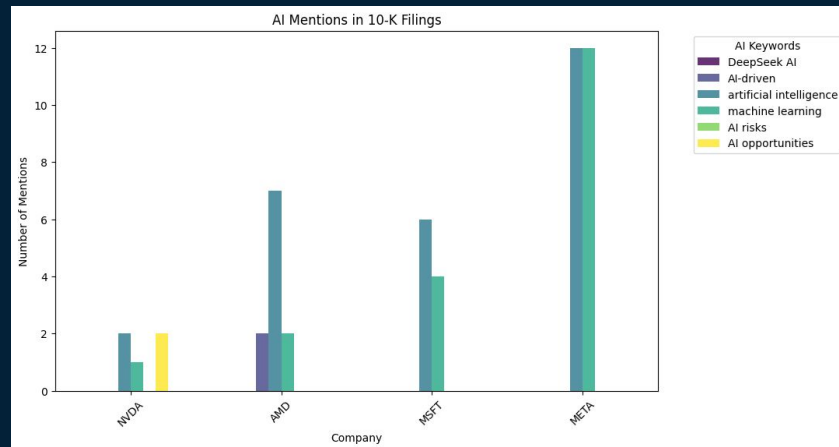
Additional webpage -

SEC Filings

Benefits:
Market APIs track short-term sentiment, but SEC filings reflect long-term strategic shifts. SEC filings provide official company statements on AI risks & opportunities, offering a clearer picture than news sentiment APIs.

Stock Price Trends Over 6 Months

AI Mentions in 10-K Filings

Challenges

- **Data Extraction Complexity**
  - Wikipedia tables had inconsistent formats requiring additional data cleaning.
  - SEC filings contained large text documents that needed NLP processing to extract insights.

- **Historical Comparisons & AI Event Matching**
  - Hard to find past AI-related stock crashes for direct comparisons.

- **Stock Market Volatility**
  - Multiple factors influence stock prices, making it difficult to isolate DeepSeek AI's effect.

Future works

- **Deeper AI-Driven Market Trend Analysis**
  - Expand analysis to multiple AI companies & ETFs beyond NVDA, AMD, etc.

- **Alternative Market Data Sources**
  - Use Google Trends & social media sentiment analysis to capture real-time investor reactions.
  - Incorporate alternative financial datasets (e.g., hedge fund holdings, institutional trades).

- **Better AI & Finance Integration**
  - Develop a dashboard to track real-time AI-related stock movements.