

StoxChai

Advanced Stock Analysis with AI

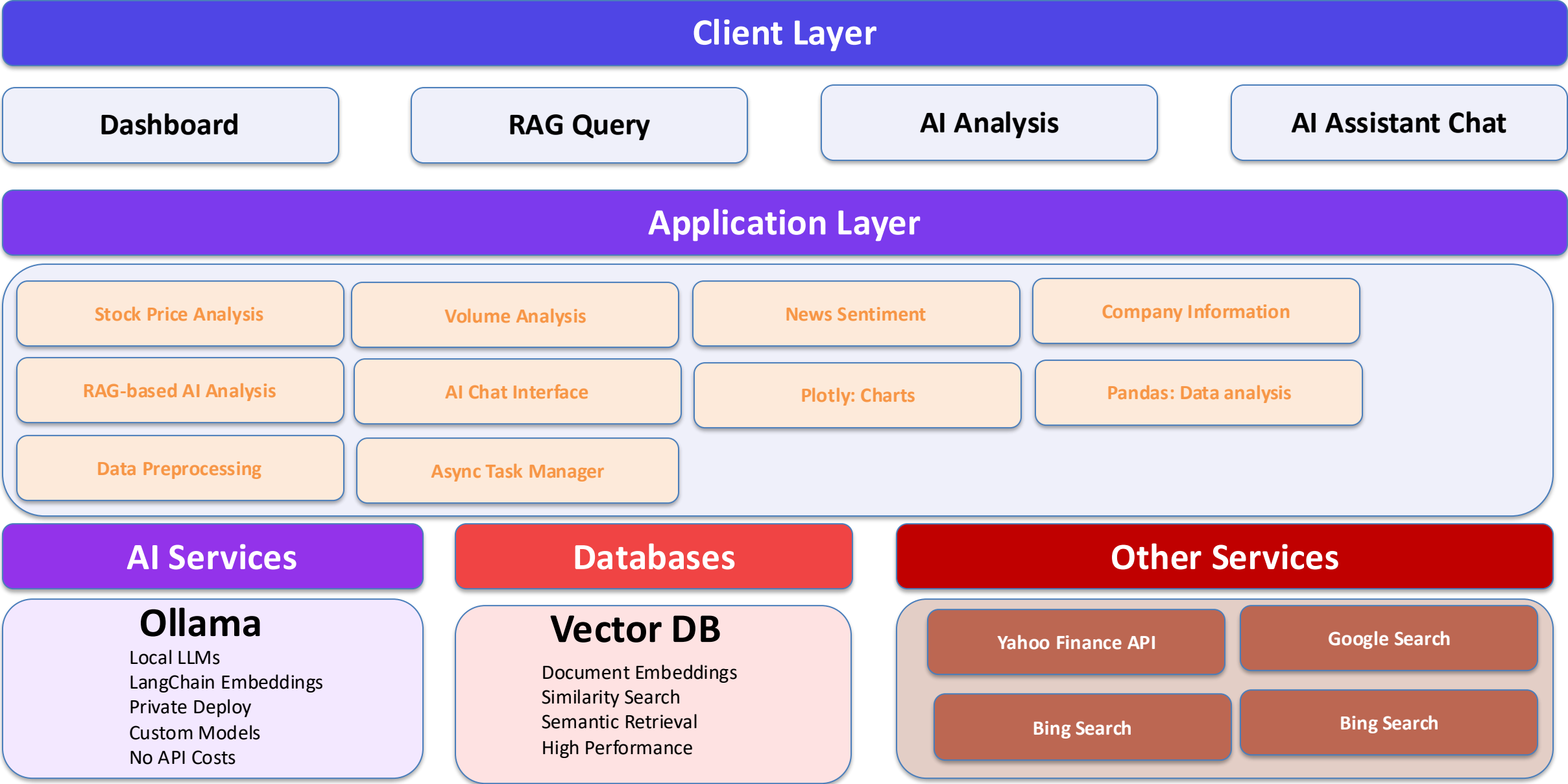
Jagadish Thoutam

Comprehensive Stock Analysis Platform

StoxChai is an all-in-one analysis platform make data-driven decisions by providing:

- Real-time and historical stock data with interactive, filterable price and volume charts
- Technical analysis using dynamic moving averages, trend detection, and automatic pattern recognition
- Automated news sentiment analysis leveraging NLP to assess market perception from latest headlines
- Volume analysis to highlight unusual activity, spot anomalies, and detect liquidity shifts
- AI-powered insights and trade ideas delivered through a natural language chat interface
- Retrieval Augmented Generation (RAG) for context-aware responses, combining semantic search with local LLMs for precise and relevant answers
- Data automatically preprocessed and cached for speed and reliability
- System activity and user interactions are logged for easy monitoring and troubleshooting

StoxChai Architecture



Technology Stack

Frontend

- Streamlit - Python-based UI framework
- Plotly - Interactive data visualization
- Custom CSS - Responsive design
- Interactive components - Filters, charts, inputs

Backend & AI

- Python - Core application logic
- yfinance - Real-time market data
- Pandas/NumPy - Data processing
- Ollama - Local LLM integration
- Custom RAG system - Context-aware AI
- NLTK - Sentiment analysis

Key Functionalities



News Sentiment

NLP-driven analysis of news articles with NLTK sentiment scoring.



AI Assistant

RAG-powered insights with vector similarity search using context retrieval.



Price Analysis

Interactive candlestick charts with moving averages and technical indicators.



Volume Analysis

Track trading volume patterns and identify significant spikes.

Interactive Price Charts

Analyze stock price movements with candlestick charts, multiple timeframes, and technical indicators.

StoxChai Tool

Enter Stock Symbol (e.g., HDFCBANK.NS, RELIANCE.NS):

HDFCBANK.NS

Select Time Period:

1y

Select Data Source:

Yahoo Finance

Fetch Data

RAG Query

Ask something about the stock:

e.g., How has the stock performed in the

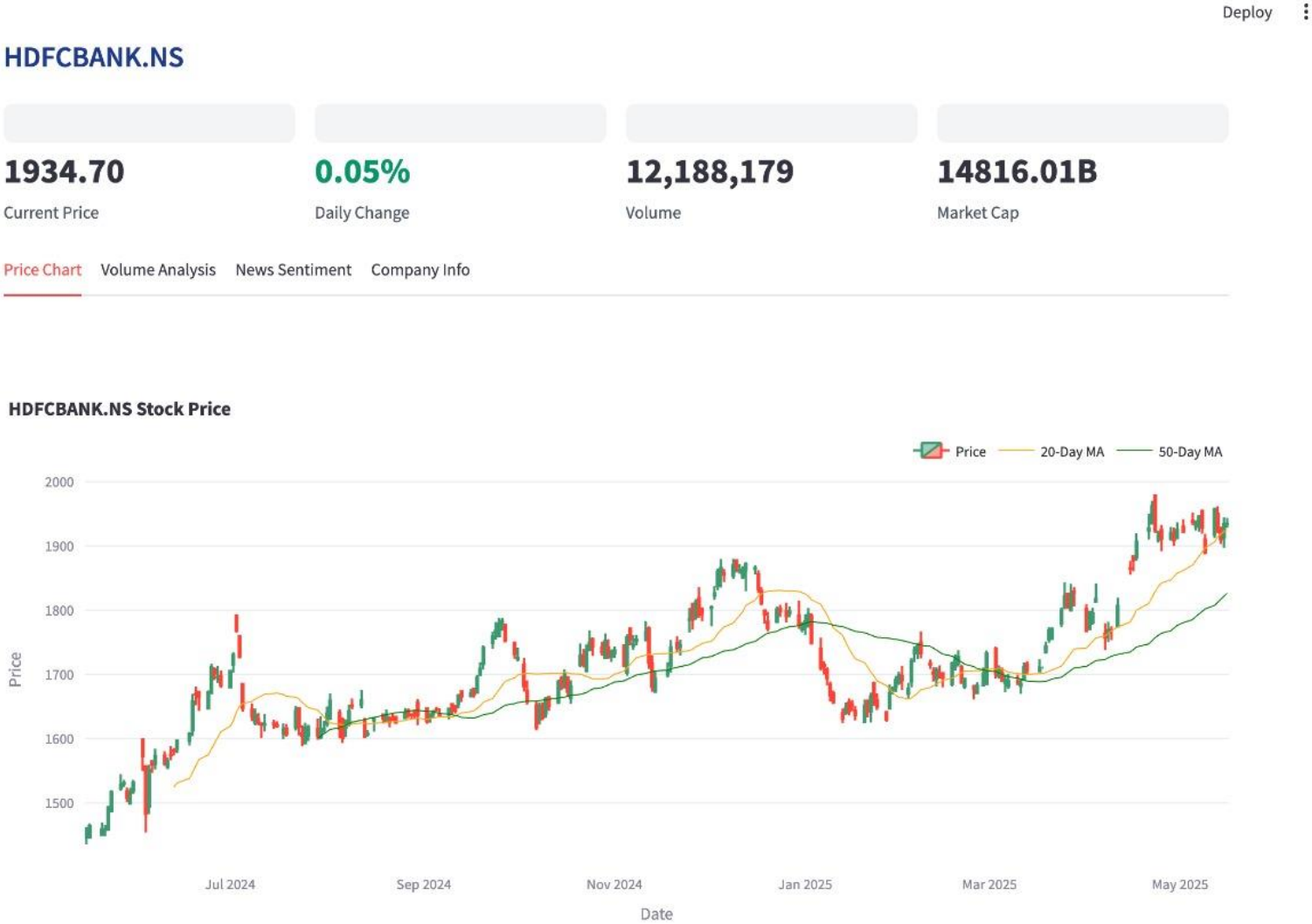
Run Query

AI Analysis

Select AI Model:

qwen2.5:latest

Generate AI Analysis



News Sentiment Analysis

Track market perception through automated analysis of news articles with sentiment scoring visualization.

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AI Analysis

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qwen2.5:latest

Generate AI Analysis

Price Chart

Volume Analysis

News Sentiment

Company Info

Deploy

News Sentiment Distribution for HDFCBANK.NS

Number of Articles

3

2

1

0

Positive

Neutral

Negative

Sentiment Category

Sentiment Category	Number of Articles
Positive	0
Neutral	2
Negative	3

Average Sentiment Score

-0.5

0

0.5

-1

1

-0.136

AI Analysis

Generate comprehensive stock analyses with key metrics, performance trends, and sector comparisons.

AI Analysis

Select AI Model:

qwen2.5:latest

Generate AI Analysis

Note: Yahoo Finance API had changes in February 2025. If you encounter issues, try updating to the latest yfinance version (0.2.54+).

About

This tool fetches stock data from Yahoo Finance, analyzes news sentiment, and provides AI-powered analysis using Ollama and RAG techniques.

v1.2.0 - May 2025

Deploy

Comprehensive Analysis of HDFCBANK.NS

1. Current Market Position

HDFC Bank Limited (HDFCBANK.NS) is a prominent player in the financial services sector, specifically within the banks - regional sub-industry. The company has a market capitalization of approximately \$14816008732672, reflecting its significant size and influence in the market.

2. Recent Performance Trends

- Price Change (Last 10 Days):** The stock price has remained stable with no change over the last ten days.
- Volatility:** Over the same period, the volatility is relatively low at 1.70%, indicating that the stock's price movements are not significantly fluctuating.
- 50-Day Moving Average:** The current stock price (1934.7) is above its 50-day moving average of 1826.47, suggesting a positive trend and investor sentiment.

3. News Sentiment Implications

- Average Sentiment Score (-0.14):** The negative news count slightly outweighs the neutral news, with three negative pieces of news compared to two neutral ones.
- Positive vs Negative:** There are no positive news items reported, which could indicate a cautious market outlook for HDFCBANK.NS.


4. Key Factors to Watch

- Economic Indicators:** Economic growth and stability in India will significantly impact the bank's performance.
- Monetary Policy:** Changes in interest rates by the Reserve Bank of India (RBI) can affect lending and deposit rates, impacting profitability.
- Credit Risk:** Monitoring credit risk management practices and loan portfolio quality is crucial for maintaining a healthy balance sheet.
- Market Sentiment:** Continued negative news could lead to further volatility or downward pressure on stock prices.

5. Overall Outlook

AI Assistant Chat

Interact with an AI assistant that provides context-aware responses about stocks using RAG technology.



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AI Analysis

Deploy

AI Assistant Chat

You (12:56:39):

What's the outlook for this stock?

AI Assistant (12:56:39):

Based on the data for HDFCBANK.NS, the stock is currently trading at 1934.7 with recent performance showing a -1.15% change over the last 5 days. The overall market sentiment appears to be negative in the short term.

Ask about StoxChai, market trends, or investment strategies:

Send

Suggested questions:

What's the outlook for this stock?

Explain the recent price movements

How does this compare to sector performance?

What do news articles say about this stock?

Should I consider investing now?

What are the key risks for this stock?

Data source: Yahoo Finance | Built with Streamlit, Plotly, and Ollama

Who Benefits From StoxChai?



Day Traders

Real-time technical indicators for quick decision making



Long-Term Investors

Fundamental data and trend analysis for portfolio decisions



Financial Advisors

Client-ready visualizations and summaries



Finance Students

Learning platform for market analysis techniques

Thank You!

<https://github.com/jaganthoutam/stoxchai>