



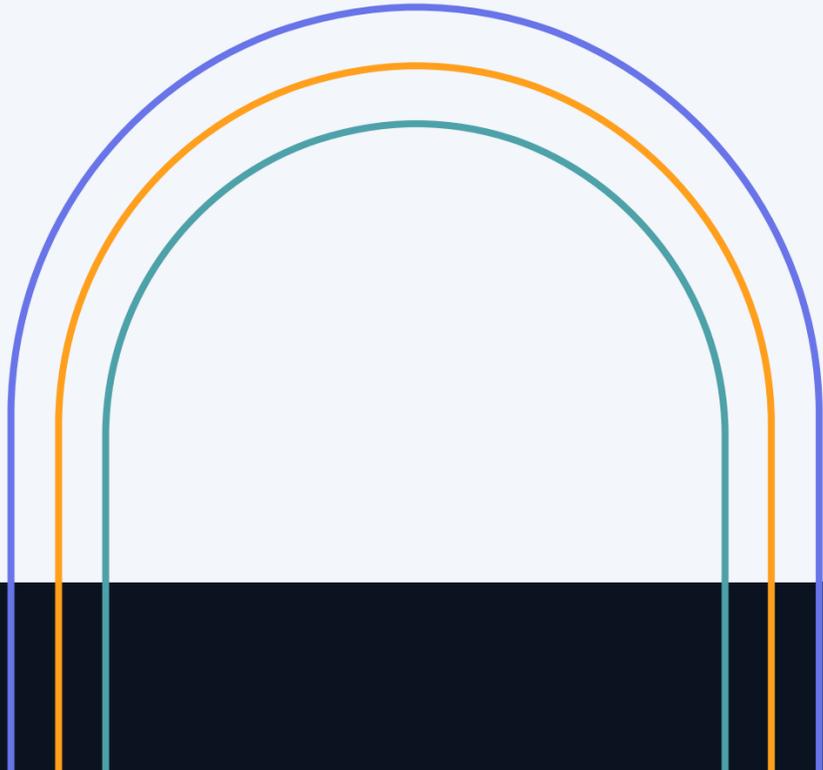
---



# StockSage AI

A Smart Financial Advisor

LabLab.AI / Google Vertex AI Hackathon



Problem #1

# Financial Expertise, a Barrier?

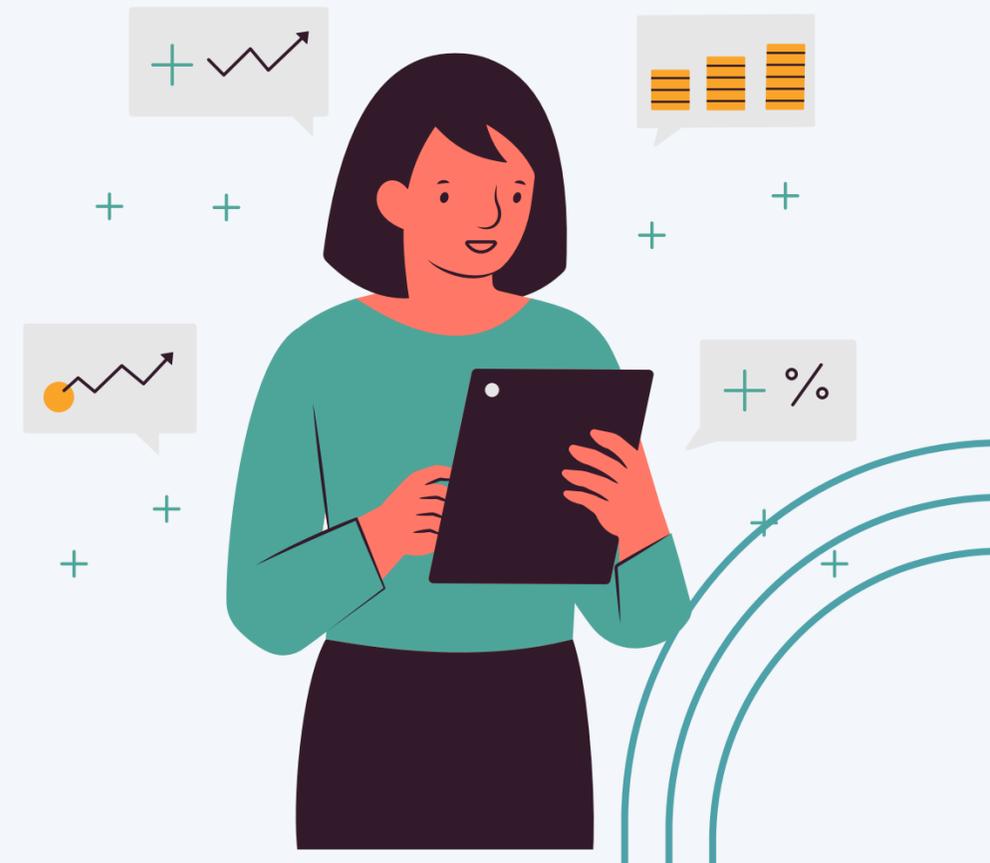
Investors lack a personalized investment resource



Problem #2

# Widespread MisInformation?

Stock Market Navigation is Complex and  
Time-Consuming



Problem #3

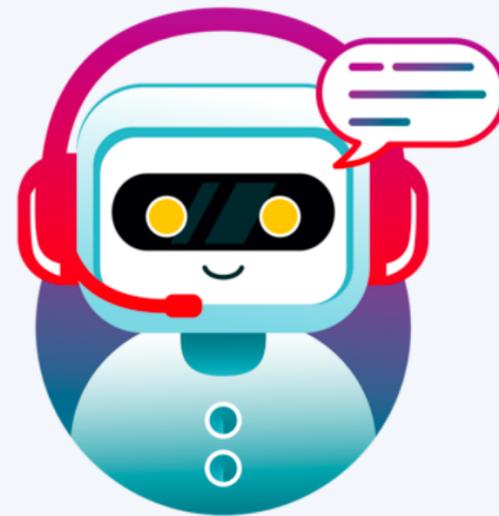
# Existing Financial AI Services?

Expensive, Inefficient, Prone to Hallucinations.



# StockSage AI

- Your Smart AI Financial Assistant -



# Feature #1

Welcome to StockSage AI! We're here to simplify your financial journey with personalized, real-time advice and data visualizations. Let's make informed financial decisions together!

Choose the format of stock prices

- Graphs 📈
- Forms 📄
- Both 📄

User Input:

hi 🤖

88 Hi, how can I help you today?

What are the top 5 stocks that grew today out of SP500? 🤖

88 Based on the latest data, the top 5 stocks that showed growth today from the S&P 500 index were Advanced Micro Devices Inc. (AMD), NVIDIA Corporation (NVDA), Etsy Inc. (ETSY), Zebra Technologies Corporation (ZBRA), and Twilio Inc. (TWLO). These companies have demonstrated notable growth, and I can provide more details on each company's performance if you'd like.

# Chat Interface

Users can ask personalized queries, receive unique responses

## Feature #2

×

Welcome to StockSage AI! We're here to simplify your financial journey with personalized, real-time advice and data visualizations. Let's make informed financial decisions together!

Choose the format of stock prices

- Graphs 📈
- Forms 📄
- Both 📄

### FinTech Chatbox

'An investment in knowledge pays the best interest.' — Benjamin Franklin

Ask any question related to stock.

Time	a	b	c
0	-0.5	0.7	0.6
1	1.2	-0.1	-1.0
2	0.6	-0.1	0.6
3	-0.8	-0.3	0.6
4	-0.6	-0.4	-1.0
5	-1.8	-0.6	-0.2
6	-0.2	-0.7	0.8
7	0.6	-1.8	-0.5
8	-2.1	0.1	0.1
9	1.0	-0.6	-0.9
10	-0.3	-0.9	0.7
11	-0.4	1.0	0.1
12	0.2	-1.1	0.0
13	-0.2	-0.2	-0.8
14	-1.5	-1.4	-0.2
15	-0.1	1.3	1.6

# Dynamic Visuals

Colorful Visualizations in Graph, Table formats

## Feature #3

Welcome to StockSage AI! We're here to simplify your financial journey with personalized, real-time advice and data visualizations. Let's make informed financial decisions together!

Choose the format of stock prices

- Graphs 
- Forms 
- Both 



User Input:

I heard about the wildfire in Canada. Will this affect any stocks that I currently hold?



88

Wildfires can potentially impact certain industries and companies, especially those directly involved in forestry, agriculture, or natural resources. To provide a more accurate assessment, could you please specify the stocks you currently hold so that I can analyze their potential exposure to the situation?

I currently hold shares of Canfor Corporation (CFP) and Nutrien Ltd. (NTR).



88

As of 07/09/2023, the wildfires in Canada have led to a temporary disruption in timber supply, affecting Canfor Corporation (CFP). However, Nutrien Ltd. (NTR) seems to be less directly impacted by the current situation. I'll continue monitoring the latest news and provide you with real-time updates on any significant developments that could affect your holdings.

# Real-Time Updates

Scrapes reliable news sources to provide up-to-date info

## Feature #4

```
In [1]: from pymongo import MongoClient
        from pymongo.server_api import ServerApi

        uri = "mongodb+srv://cluster0.cxcyr4x.mongodb.net/?authSource=%24external&authMechanism=MONGODB-X509&retryWrites=true&w=1"
        client = MongoClient(uri,
                             tls=True,
                             tlsCertificateKeyFile='X509-cert-8082716613236110284.pem',
                             server_api=ServerApi('1'))

        db = client['simple_db']
        collection = db['simple_col']
        # collection.drop()
        # collection = db['testCol']
        doc_count = collection.count_documents({})
        print(doc_count)
```

0

```
In [2]: import vertexai
        from vertexai.preview.language_models import TextEmbeddingModel
```

```
# get text_embedding
def text_embedding(message):
    model = TextEmbeddingModel.from_pretrained("textembedding-gecko@001")
    embeddings = model.get_embeddings([message])
    for embedding in embeddings:
        vector = embedding.values
    return vector
```

```
In [4]: # Write stock info to db
def store_stock_info(symbol, name, price, news_embedding, collection=collection):
    record = {"symbol": symbol, "name": name, "price": price, "embedding": news_embedding}

    # Insert the record into the collection
    collection.insert_one(record)
```

```
In [55]: import pandas as pd
df = pd.read_csv("simple_final_data.csv")
```

```
In [56]: df
```

```
Out[56]:
```

	Unnamed: 0.1	Unnamed: 0	Symbol	news	News_embedding
0	0	0	MMM	None	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, ...
1	1	1	AOS	None	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, ...
2	2	2	ABT	None	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, ...
3	3	3	ABBV	None	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, ...
4	4	4	ABMD	None	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, ...
...	...	...	...	...	...
500	500	500	YUM	None	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, ...

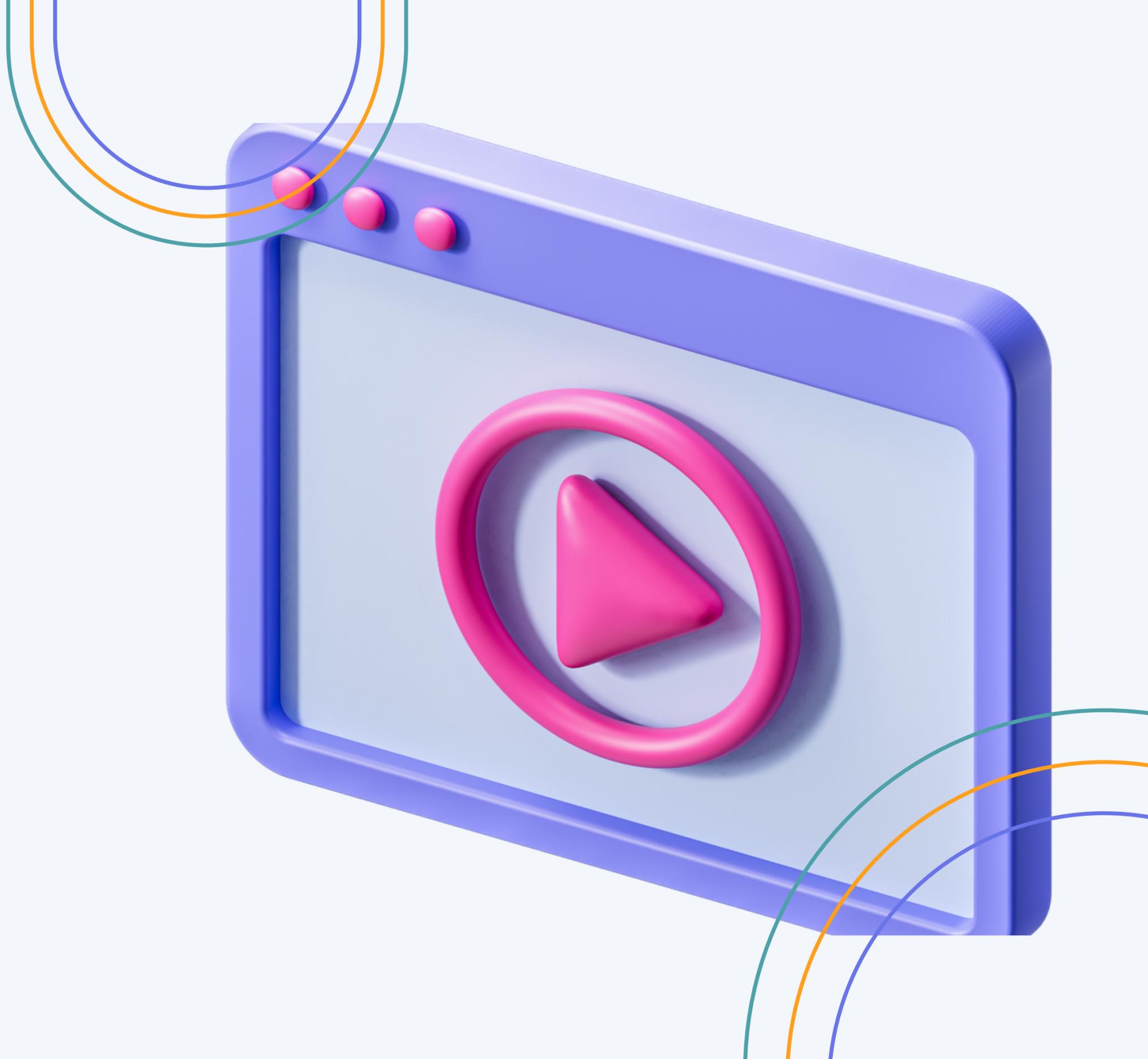
# Optimized Searching

Combines Google Vertex AI with MongoDB Vector Search to ensure accurate results



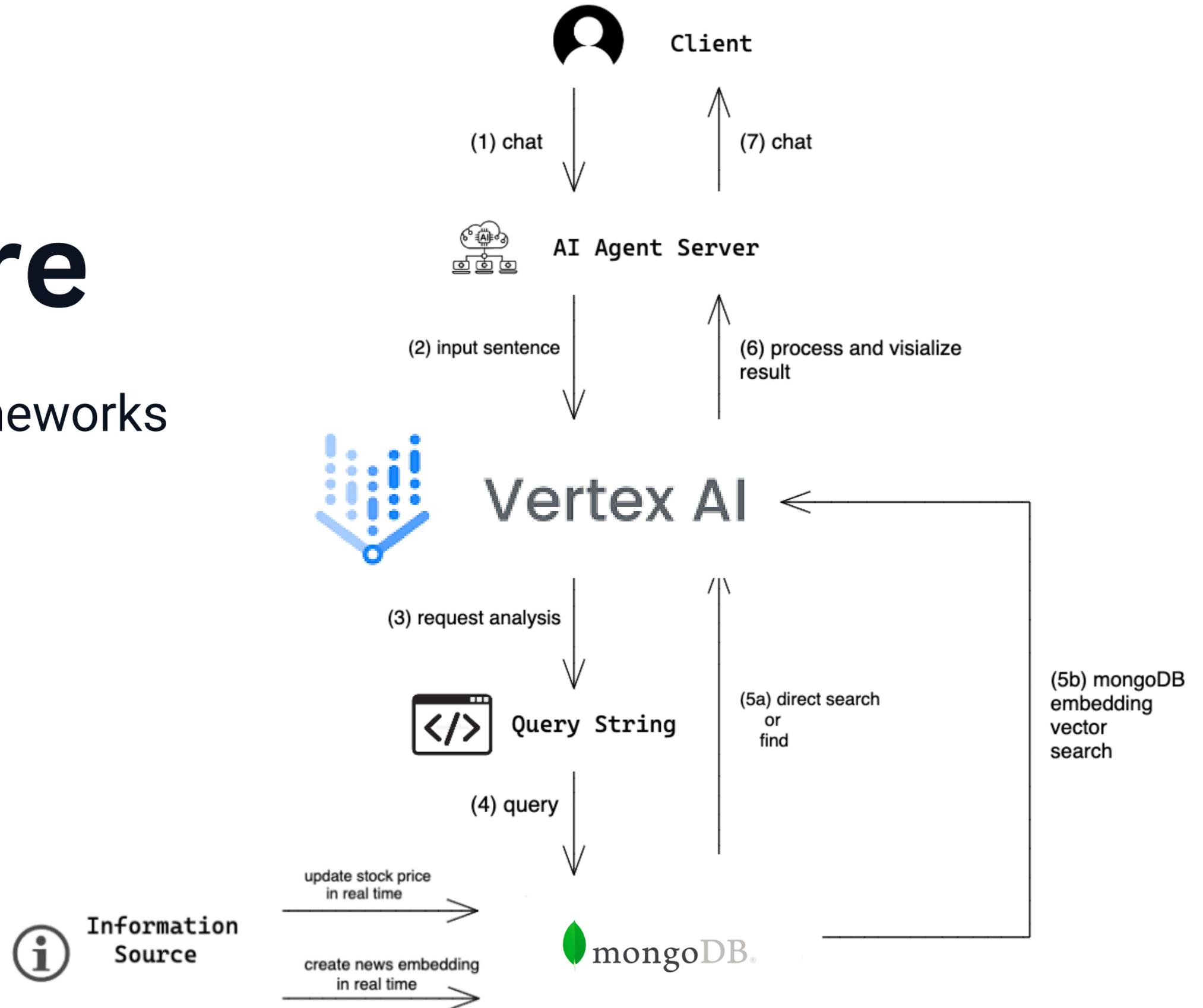
# live demo

watch us walk through  
a conversation with  
StockSage AI



# Project Architecture

A Breakdown of Tools/Frameworks





# Next Steps

## 1. Diversified Chat Services:

For users with varying financial backgrounds

## 2. Cryptocurrency Integration:

Incorporate cryptocurrency data, trends into chatbot

## 3. Corporate Collaborations

partner with banks, investment firms as a value-added-service to their customers

# Thank You!

## Try StockSage AI Today



 <p><b>Arthur Xin</b> (arthurxin953) Machine learning engineer</p> <p> </p> <p> </p>	 <p><b>Grace Chen</b> (gchen)</p> <p> </p>	 <p><b>Alice Hu</b> (aliceyh7)</p>	 <p><b>Sunny Yuan</b> (SunnyYuan)</p> <p> </p>	 <p><b>Yueyang Huang</b> (yuh221)</p> <p> </p>	 <p><b>Yuchen Pan</b> (yuchen_pan779)</p> <p> </p>	 <p><b>Wenxin Tian</b> @wxtian10</p> <p>ed made</p>
---	---	---	---	---	---	--