

Individual project

 18 / 10 / 2025

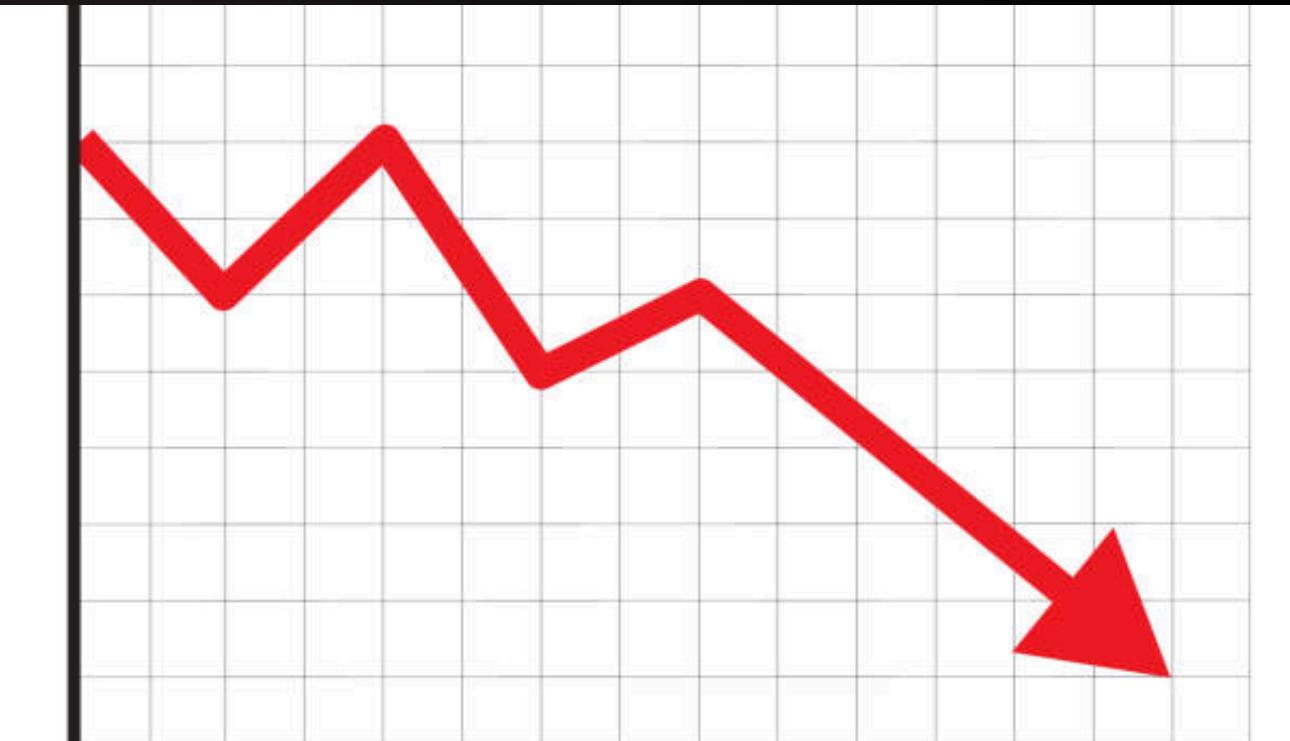
# AI for Indian Stock Market

## Trend Analysis →

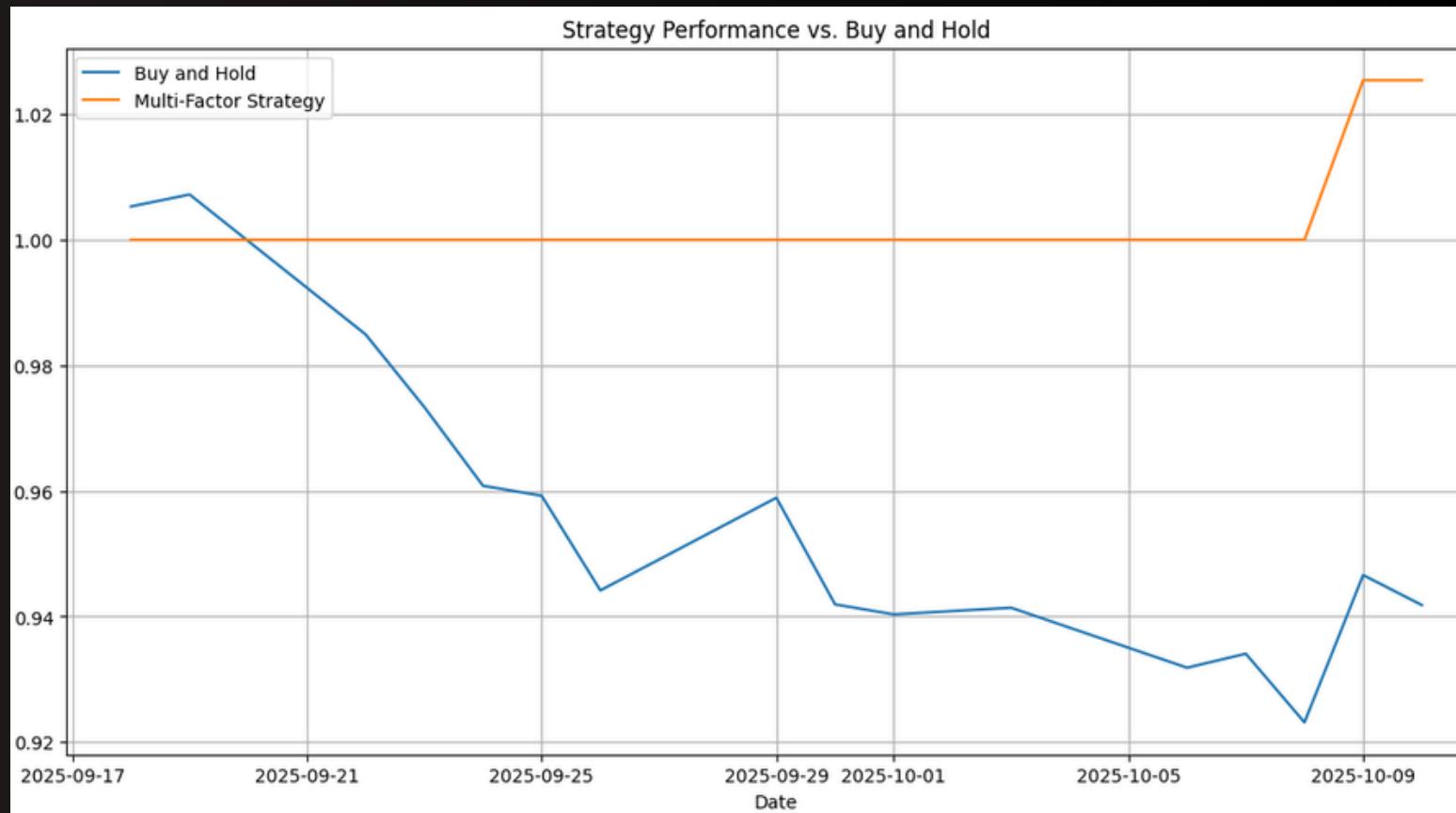
and trading strategy

# Problem Statement

- **The Problem:** The "Buy and Hold" investment strategy is too simple. It's passive and fully exposed to market downturns.
- **The Question:** Can we build a smarter, more active strategy?
- **The Importance:** A smarter strategy can protect capital during bad times and find better opportunities to grow it.

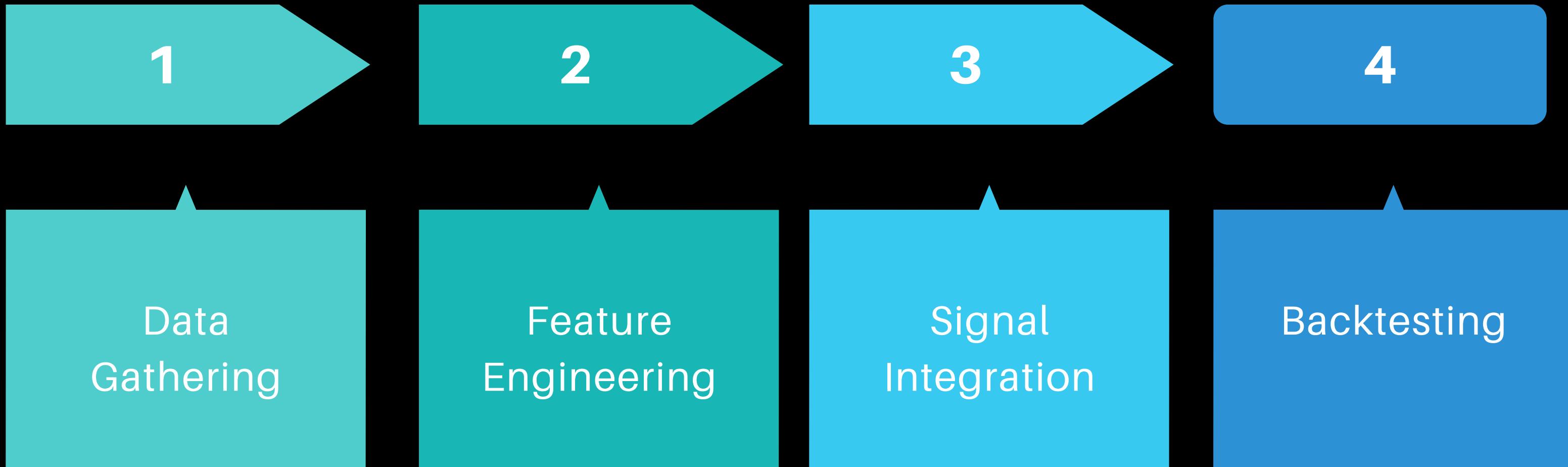


# Project Outcome & Objectives



- **Project Outcome:** I built a complete Python pipeline that automatically analyzes stock and news data to make trading decisions.
- **Key Objectives:**
  1. To build a strategy that uses both financial data (RSI) and AI-driven news sentiment.
  2. To test this strategy against the "Buy and Hold" benchmark
  3. The ultimate goal was to see if my strategy could achieve better returns.

# METHODOLOGY



**Approach:** I created a 4-step pipeline to process data and test the strategy.



## Dataset

- I used two sources for the same company,

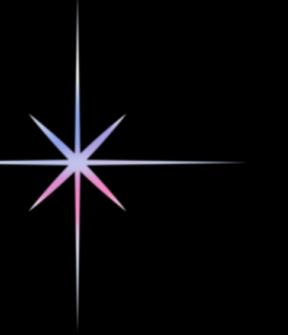
### **Varun Beverages:**

1. Stock Prices from the **yfinance** library.
2. News Headlines from the **NewsAPI**

## Tools & Technologies:

The project was built in Python using Google Colab. The key tools were **Pandas** for data handling, **yfinance** and **NewsAPI** for data, and the **Hugging Face transformers** library to run the **FinBERT** AI model

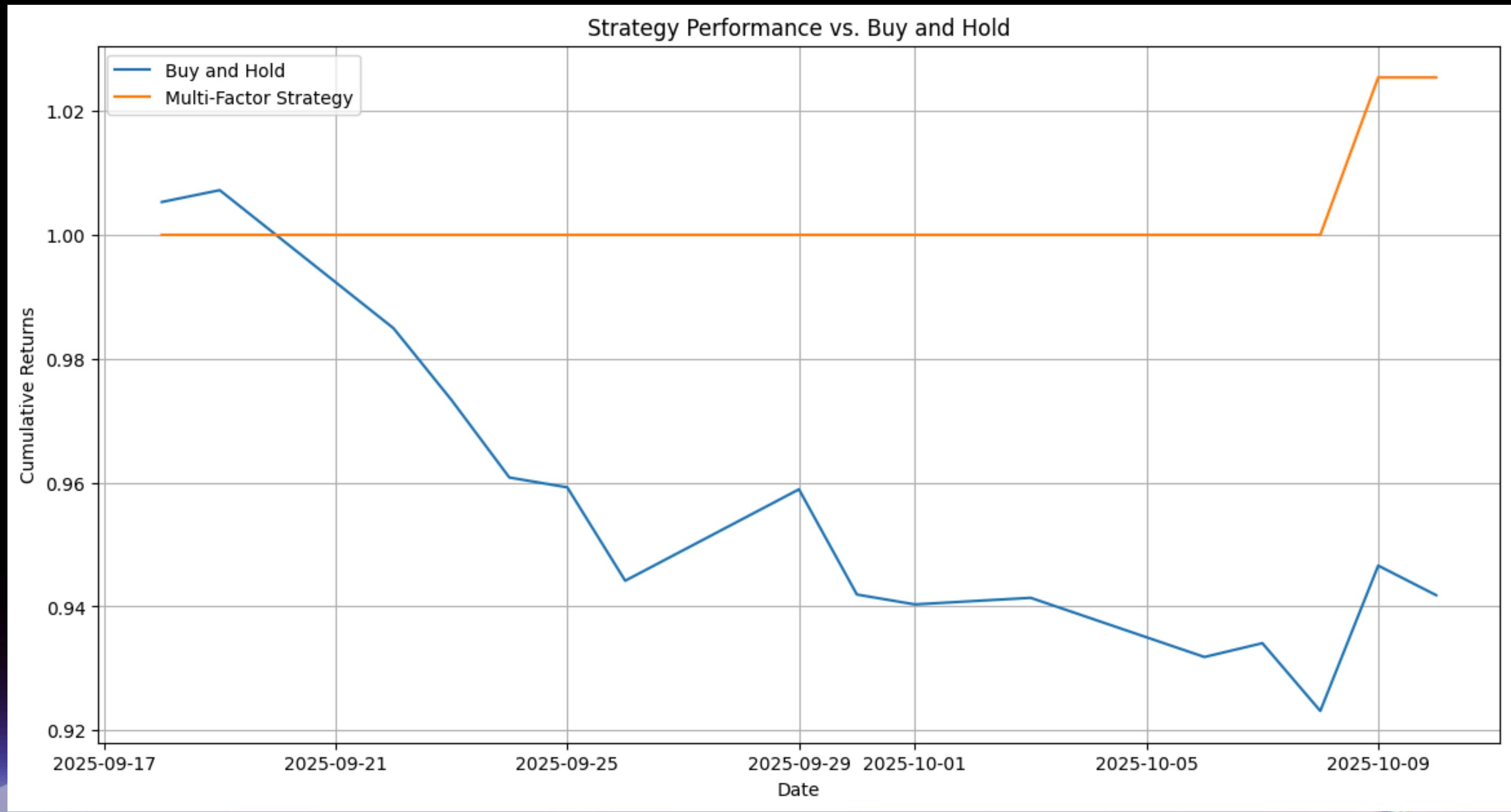
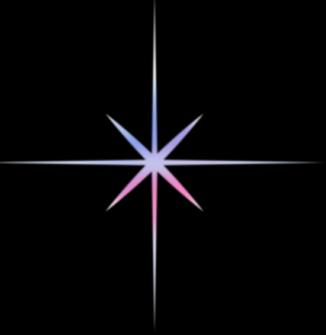




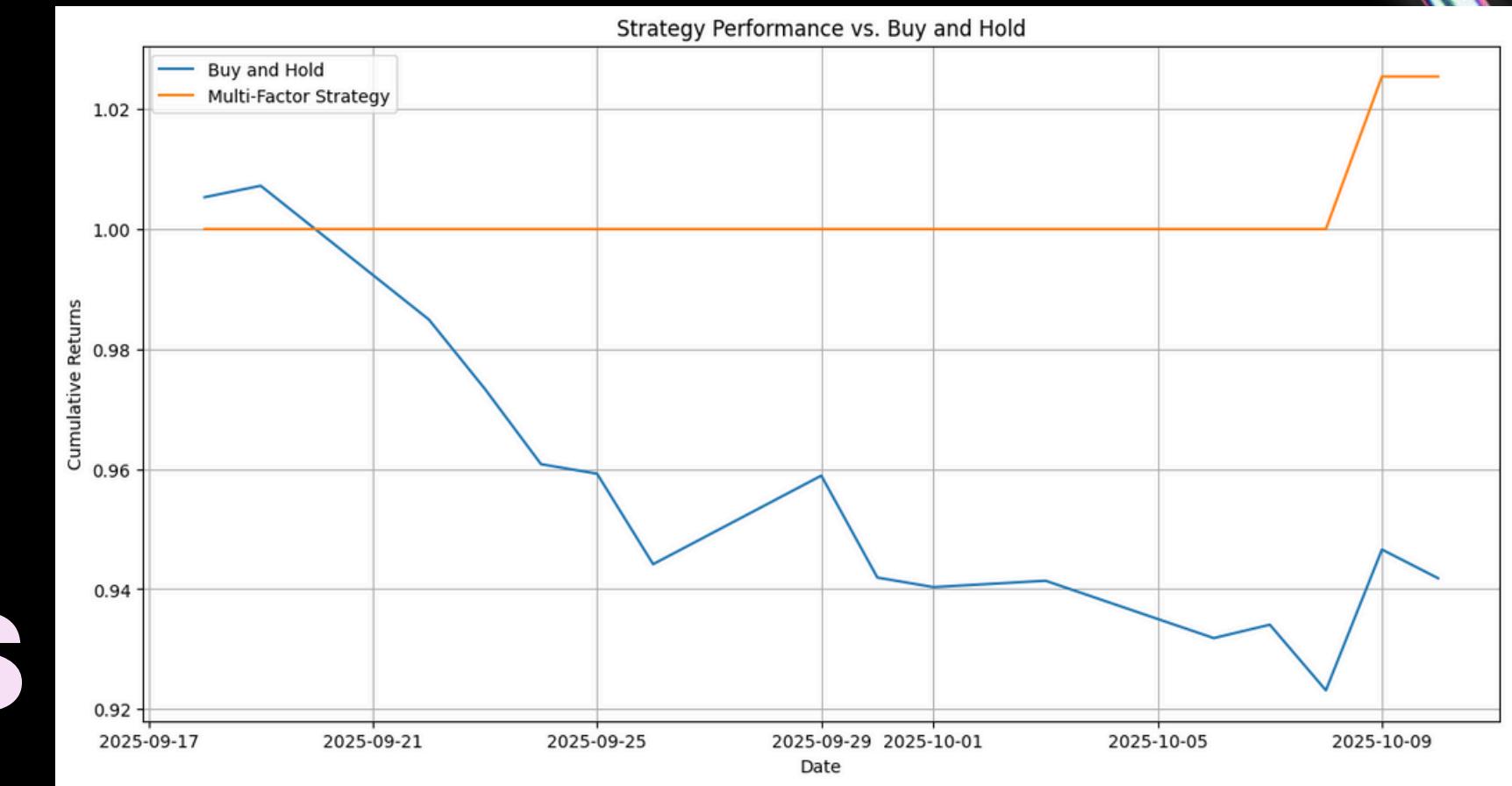
# Implementation & Demo

For this , we shall be switching to my  
Google Colab notebook

# Final Graph



# Results & Observations



## Achievements



My strategy successfully beats the "Buy and Hold" benchmark.

## Performance



- The "Buy and Hold" strategy lost about 6-7% during this period.
- My strategy avoided these losses by holding cash (the flat orange line).
- It then entered a single, well-timed trade that resulted in a 2.5% profit.

# Conclusion & Future Work



## CONCLUSION

This project successfully demonstrates that an AI-powered, multi-factor approach can lead to superior trading outcomes.



## Future Work

- Test the strategy on a larger basket of stocks.
- Backtest over a much longer time period
- Experiment with the signal weights.



**Thank You!**