CODECELL - CMPN, VESIT

SYRUS HACKATHON 2025

Category Code:

Problem Statement Title:

Team Name: Status 200

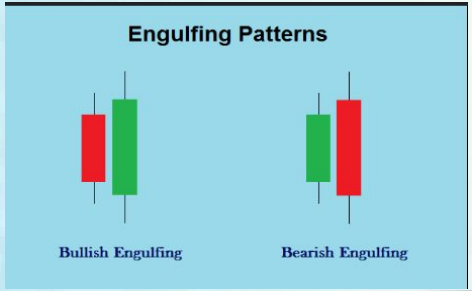
Institute Name: Vivekanand Education Society's Institute of Technology

Idea / Approach details (& implemented features)

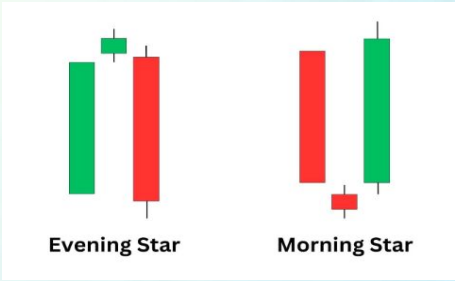
- **Problem Statement** -Traditional market prediction through human pattern detection is often inaccurate due to subjective biases and the sheer number of patterns that can go unnoticed. Missing patterns can lead to loss of trading opportunities or misjudging market moves, resulting in losses.
- **Proposed Solution** -We propose an AI-driven candlestick pattern detection system that automates statistical analysis of candlestick charts across three different timeframes with 8 patterns analysed. This system calculates a final confidence score for every stock at every instance, ranging from -1 (strongly bearish) to +1 (strongly bullish), effectively indicating the market trend.
- **Multi-Timeframe Analysis** – The system scans three different timeframes (e.g., 5 min, 15 min, 1 hour) to detect patterns.
  Statistical Scoring – Each pattern algorithm when executed assigns a resemblance score. For every stock all patterns scores is confined to one using min max method.

Innovation (Showstopper)

- **Final Confidence Score** – A weighted average of detected patterns across timeframes is computed to generate a score and summing with sentiment score the final confidence score is returned.
- **Sentiment Score**- The news is fed and the the sub-agent extracts the news that will affect the stock price and based on that a sentiment score is generated.
- **Market Movement Suggestion** – Traders receive a simple score indicating probable bullish or bearish momentum.
- **Target Audience** -Traders can utilise the scores to make trades especially for Intraday traders who can automate the trading based on scores and with safe options even an daily 0.5% of return can be compounded over 250% annually.



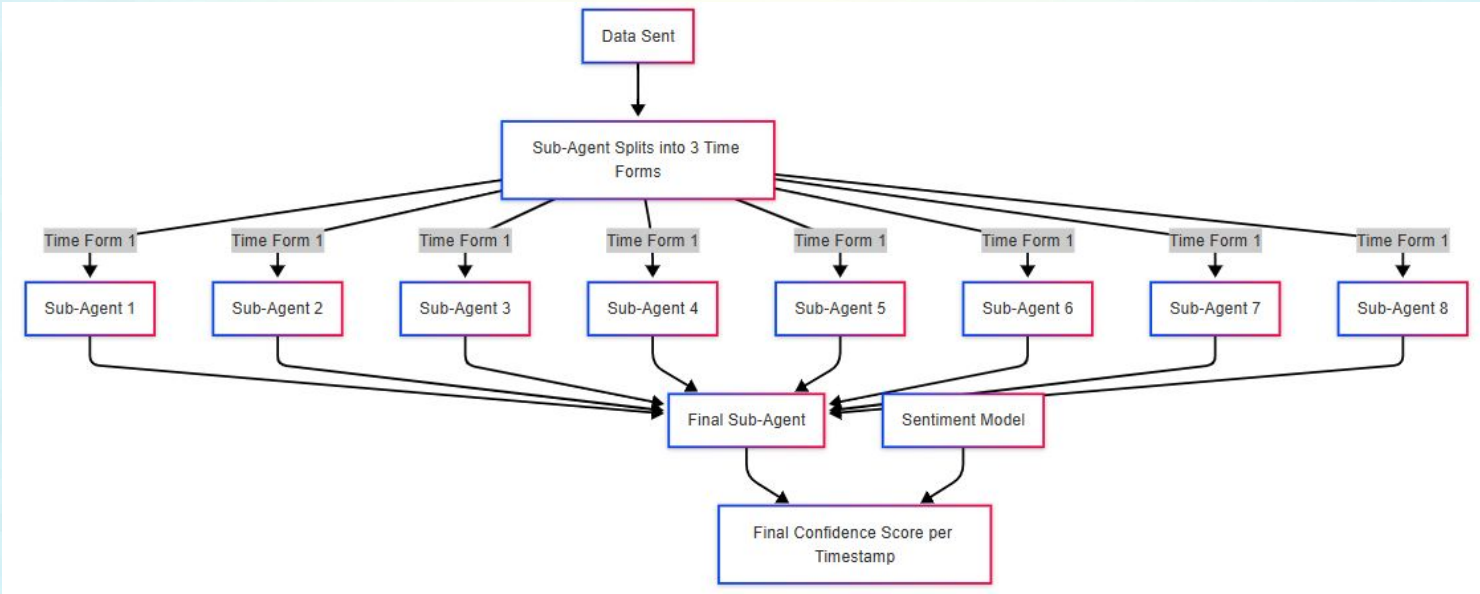
Patterns Analysed- Bullish Engulfing, Bearish Engulfing, Hammer, Dragonfly doji, morning star, hanging man, evening star and shooting star



Implemented Features

- The UPTIQ Agent is designed for automated calculation of resemblance scores for each candlestick pattern.
- A sub agent is created for each candlestick pattern which imports a sample dataset via read table and passes it over to the LLM prompt.
- An accurate prompt is provided to the LLM which provides resemblance scores for each timestamp present in the dataset.
- A swift workflow was generated for the intent of each sub agent which consisted of Start -> Table Read -> Prompt -> Display.
- The outputs from all 8 agents was confined to a final resemblence score ranging from -1 to 1 using a 9th sub agent.
- The final confidence score is calculated by summing the resemblance score and the sentiment score generated from subagent(news affecting stock)

Implementation/Prototype/Use Case Diagram (screenshots)



Innovation & Technologies used

- We used Uptiq's AI Agent feature to automate all our tasks for our Automated Trading System.
- A total of 9 sub agents were created 8 of which handled 8 candlestick patterns and their confidence values whereas the 9th one aggregated the outputs of all 8 as one.
- Uptiq nodes such as Table read and Prompt were used efficiently to read values from a stock market dataset and send prompts to GPT 4o-mini.
- GPT 4o-mini efficiently returned our responses in the format specified.

Video Link

Future Objectives

- Developing an Intraday Trading Agent who can monitor these confidence score calculated every second and make trades diversifying capital to earn profit.
- Setting an buying threshold which crossed will execute buying based on relative weight of stocks confidence score.
- Similarly for selling can involve selling and also short selling to earn profit and with neutral values will hold.
- Maintain a live portfolio tracking of investment.
- Even with an minimal return of 0.5%daily compounded can exceed 250% annually.