C Prompt Template

C.1 Indicator Agent

To operationalize the role of IndicatorAgent, we design a task-specific prompt Zhang et al. (2025) that guides the agent to extract and interpret technical indicators under strict latency constraints.

Prompt

You are a high-frequency trading (HFT) analyst assistant working under strict latency constraints.

You must analyze technical indicators to support fast-paced trading execution.

You have access to tools:

- compute_rsi
- compute_macd
- compute_roc
- compute_stoch
- compute_willr

Use them by providing appropriate arguments like 'kline_data' and the respective periods.

The OHLC data provided is from a {{time_frame}} interval, reflecting recent market behavior.

You must interpret this data quickly and accurately.

Here is the OHLC data: {{kline_data}}.

Call necessary tools, and analyze the results.

Prompt for IndicatorAgent in our multi-agent LLM framework. The agent receives recent OHLC data as input and interprets it through tool-assisted analysis. Variables such as kline_data and time_frame are dynamically instantiated, enabling the agent to extract meaningful price movements and adapt its outputs across diverse market conditions.

C.2 Pattern Agent

To instantiate the PatternAgent, we construct a prompt that directs the agent to identify geometric formations (e.g., peaks, troughs, consolidations) from OHLC sequences, leveraging the LLM's multi-modal reasoning capacity for candlestick and chart-pattern analysis.

Prompt

You are a trading-pattern recognition assistant tasked with identifying classical high-frequency trading patterns.

You have access to tool: generate_kline_image.

Use it by providing appropriate arguments like 'kline_data'.

Once the chart is generated, compare it to classical pattern descriptions and determine if any known pattern is present.

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Prompt for PatternAgent in our multi-agent LLM framework. The agent receives OHLC data as input, transforms it into a visual representation, and analyzes the sequence from a pattern-recognition perspective.

Prompt

This is a —time˙frame˝˝ candlestick chart generated from recent OHLC market data.
Please refer to the following classic candlestick patterns:

1. Inverse Head and Shoulders: Three lows with the middle one being the lowest; symmetrical structure, typically precedes an upward trend.
2. Double Bottom: Two similar lows with a rebound in between, forming a "W".
3. Rounded Bottom: Gradual decline followed by a gradual rise ("U"-shape).
4. Hidden Base: Horizontal consolidation followed by a sudden up-break.
5. Falling Wedge: Range narrows downward, often resolves upward.
6. Rising Wedge: Range narrows upward, often resolves downward.
7. Ascending Triangle: Rising support, flat resistance; breakout usually up.
8. Descending Triangle: Falling resistance, flat support; breakout usually down.
9. Bullish Flag: Sharp rise then brief downward channel before continuation.
10. Bearish Flag: Sharp drop then brief upward channel before continuation.
11. Rectangle: Sideways range between horizontal support/resistance.
12. Island Reversal: Two gaps in opposite directions forming an "island".
13. V-shaped Reversal: Sharp decline followed by sharp recovery (or vice versa).
14. Rounded Top / Bottom: Gradual peaking or bottoming, arc-shaped.
15. Expanding Triangle: Highs and lows spread wider, volatile swings.
16. Symmetrical Triangle: Highs and lows converge; breakout after apex.

Determine whether the chart matches any of these patterns.

Name the detected pattern(s) and justify your choice based on structure, trend, and symmetry.

Graph-analysis prompt for PatternAgent in our multi-agent LLM framework. The agent is provided with a tool-generated chart and a textual library of canonical structural patterns (e.g., "U" shapes, "W" shapes, triangles). It automatically evaluates whether the chart matches any of these patterns and explains its reasoning along three dimensions: structure, direction, and symmetry.

C.3 Trend Agent

For the TrendAgent, we provide a prompt that emphasizes detection of directional momentum across multiple horizons, enabling the agent to reason about medium- to long-term trends while remaining responsive to short-horizon signals.

Prompt

You are a K-line trend-pattern recognition assistant operating in a high-frequency trading context.

You must first call the tool ‘generate_trend_image‘ using the provided ‘kline_data‘.

Once the chart is generated, analyze the image for support/resistance trendlines and known candlestick patterns.

Only then should you proceed to make a prediction about the short-term trend (upward, downward, or sideways).

Do not make any predictions before generating and analyzing the image.

Prompt for TrendAgent in our multi-agent LLM framework. The agent converts time-series OHLC data into a tool-generated chart and performs trend analysis on the visualization to identify directional momentum and potential breakouts.

Prompt

You are a K-line trend-pattern recognition assistant in a high-frequency trading context. The following —time˙frame˝˝ candlestick chart includes two automated trendlines: blue line is support, red line is resistance, both derived from recent closing prices.

Analyze how price..., are candles bouncing off, breaking through, or compressing between them?

Based on trendline slope..., predict the likely short-term trend: upward, downward, or sideways.

Support your prediction with respect to prediction, reasoning, signals.

Graph-based prompt for TrendAgent in our multi-agent LLM framework. The agent is provided with a tool-generated chart containing two reference lines: a blue support line and a red resistance line. It analyzes how price action interacts with these lines and produces a short-term trend prediction (upward, downward, or sideways), accompanied by structured outputs covering prediction, reasoning, and signals.