

## C.4 Decision Agent

To implement the DecisionAgent, we design a prompt that compels the DecisionAgent to integrate signals from all specialized agents into coherent trading actions, balancing profitability, risk, and interpretability in high-frequency market settings.

### Prompt

You are a high-frequency quantitative trading (HFT) analyst reviewing the current {{time\_frame}} K-line chart for {{stock\_name}}.

Issue an immediate execution order: LONG or SHORT. (HOLD is prohibited.)

Forecast horizon. Predict price direction for the next 3 candlesticks (e.g. 15-min chart → next 45 minutes; 4-hour chart → next 12 hours).

Here is a LaTeX-style refactored version of your original decision guideline, following the concise structure and tone you provided:

Base your decision on three reports:

1. Technical Indicator Report — Evaluate momentum (MACD, ROC) and oscillators (RSI, Stochastic, Williams %R). Prioritize strong signals (e.g., MACD cross, RSI divergence, extreme levels). Down-weight mixed or neutral indicators unless aligned across types.
2. Pattern Report — Act only on clearly formed bullish/bearish patterns with breakout or breakdown confirmation (e.g., strong wick, volume spike, engulfing). Ignore early-stage or consolidating setups without support from other reports.
3. Trend Report — Analyze price interaction with trendlines: Up-sloping support = buying interest; down-sloping resistance = selling pressure. For compression zones, act only with clear candle or indicator confluence. Do not assume breakout direction from geometry alone.

Decision Strategy:

- Act only on confirmed, aligned signals across all three reports.
- Favour strong momentum and decisive price action (e.g., MACD crossover, rejection wick, breakout candle).
- If reports conflict, choose the side with stronger, more recent confirmation.
- In consolidation or unclear setups, defer to dominant trendline slope (e.g., short in descending channel).
- Do not speculate — choose the more defensible side.
- Suggest a risk-reward ratio between 1.2 and 1.8, adjusting for volatility and trend strength.

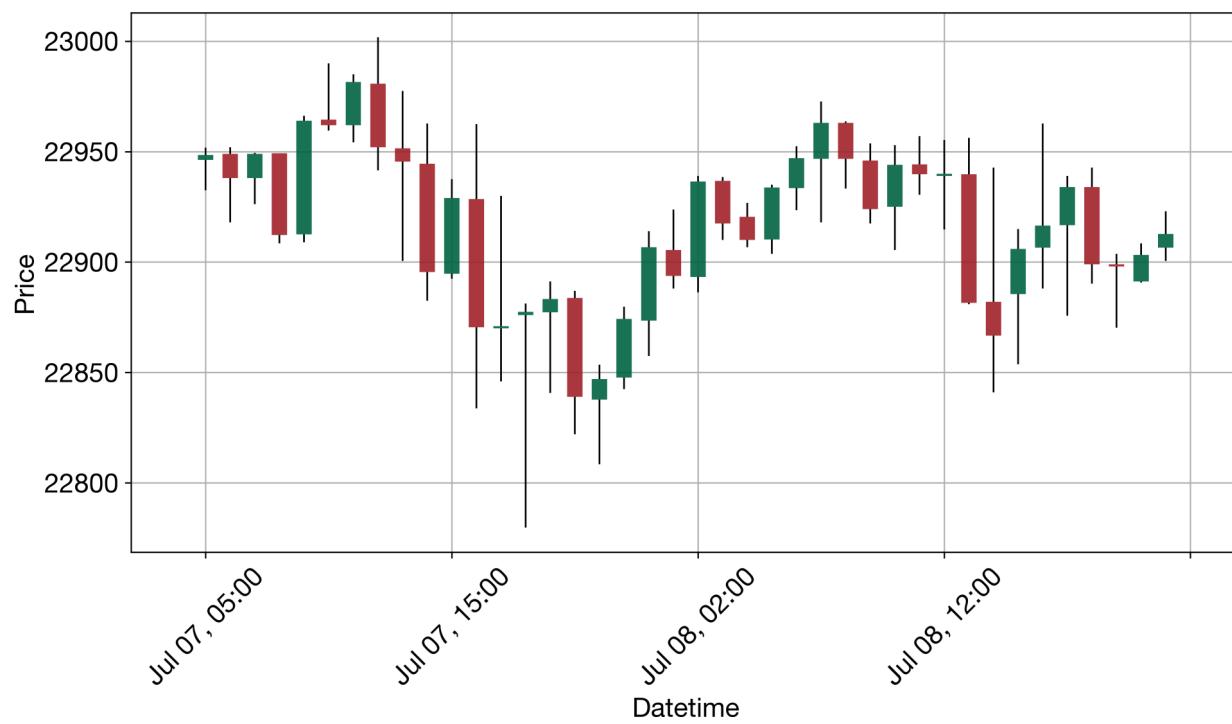
Let me know if you want this formatted directly in LaTeX code or exported to PDF.

Output JSON:

```
{  
    "forecast_horizon" : "Predicting next N candlesticks (specify)" ,  
    "decision" : "<LONG or SHORT>" ,  
    "justification" : "<Concise confirmed reasoning >" ,  
    "risk_reward_ratio": "<1.2 - 1.8>"  
}
```

**Prompt for DecisionAgent in our multi-agent LLM framework.** The agent integrates three upstream perspectives, indicator signals, structural patterns, and trend interactions, and outputs a short-term directional decision (LONG or SHORT). The prompt instructs the agent to prioritize consistent evidence, avoid speculative outputs, and provide structured justification, including an estimated risk-reward ratio.

## C.5 Pattern Tool Sample Output



**Figure 7** Tool-generated chart for PatternAgent on NQ (2025). Raw intraday candlesticks from the July 7–8 window are shown prior to overlaying reference lines. The sequence of lower highs and higher lows indicates a contracting trading range, suggesting latent pressure that often precedes a breakout once a boundary is breached.

## C.6 Trend Tool Sample Output



**Figure 8 Tool-generated chart for TrendAgent on NQ (2025).** Intraday candlesticks compress between an upward-sloping support line (blue) and a downward-sloping resistance line (red), forming a symmetrical-triangle wedge. The converging boundaries indicate a consolidation phase where buying pressure gradually builds while sellers cap rallies, often preceding a decisive breakout once a boundary is breached.