

Task: Forecast ETTh1 transformer oil temperature using 96 hourly historical observations ($L=96$) over the next 96 steps ($H=96$).

Data Characteristics: The historical oil-temperature series contains recurring fluctuations that motivate statistical diagnosis and model routing.

Input Stream: The agent uses historical observations and tool outputs; future oil-temperature targets are excluded from its decision inputs.



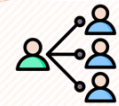
Feature Extraction

Initialized as a specialized forecaster for hourly transformer oil temperature (ETTh1)

Tool Execution: Invokes diagnostic tools to summarize historical statistics and temporal patterns.

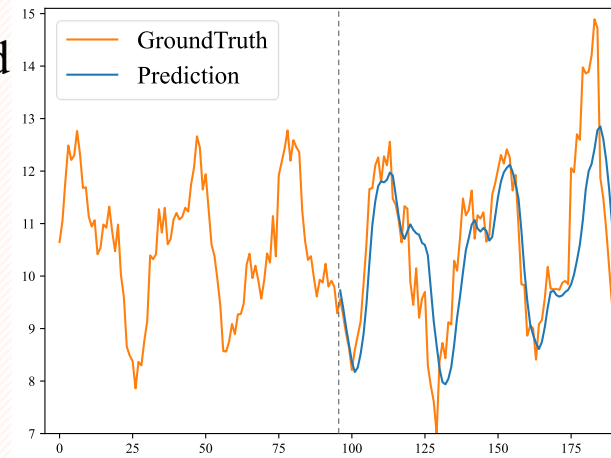
Statistical Insight: Statistical and temporal diagnostics summarize historical variability and recurring patterns, providing evidence for subsequent forecasting decisions.

Pattern Recognition: Diagnostic summaries provide evidence for subsequent model routing.



Model Selection

Synthesizing the extracted features, the agent dynamically selects the most suitable model to handle the identified data irregularities



Strategic Reasoning: Uses diagnostic evidence to select a forecaster for this episode.

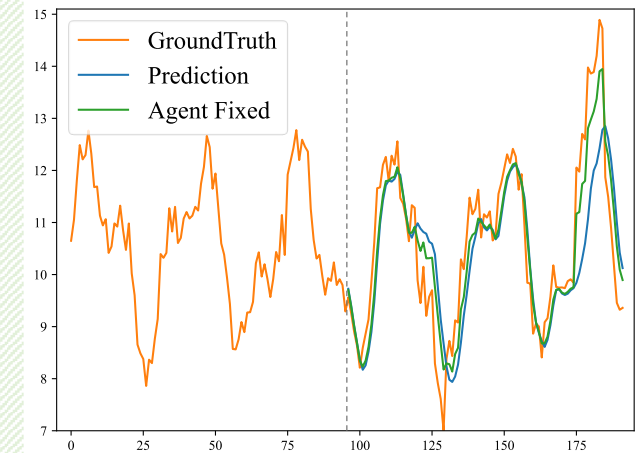
Model Selection: Routes to Chronos to obtain an initial 96-step forecast.

Initial Output: The model forecast follows recurring fluctuations and exhibits a pronounced predicted peak.



Reflection and Prediction

In the final stage, the agent reviews the preliminary forecast using historical observations and diagnostic evidence.



Critical Reflection: Reviews predicted peaks and fluctuations using historical evidence.

Forecast Refinement: Adjusts local fluctuations and peak amplitudes using historical evidence.

Final Delivery: Outputs the revised forecast based on the available historical evidence.