



# The Market Whisperers:

How We Tame Our AI Models

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DKF Munich, 13.05.2025



# Introduction



37%

of conversations in  
"Computer & Mathematical"  
(Antropic)

71%

adoption rate of GenAI in  
business functions  
(Stanford AI report 2025)

2.6x/year

growth of training cost since  
2016, frontier models, in \$  
(Epoch AI)

2023

year of PoCs

2024

year of production

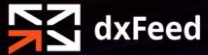
2025

year of business value

In this talk:

- Why making AI truly valuable in financial markets is difficult
- How we manage it, with practical case studies

## dxFeed is the Best Data Provider, According to Fund Intelligence Operations and Services Awards



The Fund Intelligence  
Operations & Services  
Awards 2025

dxFeed Spotlight is a  
finalist in 2 categories:

- Best New Product
- Most Innovative in Capital Markets



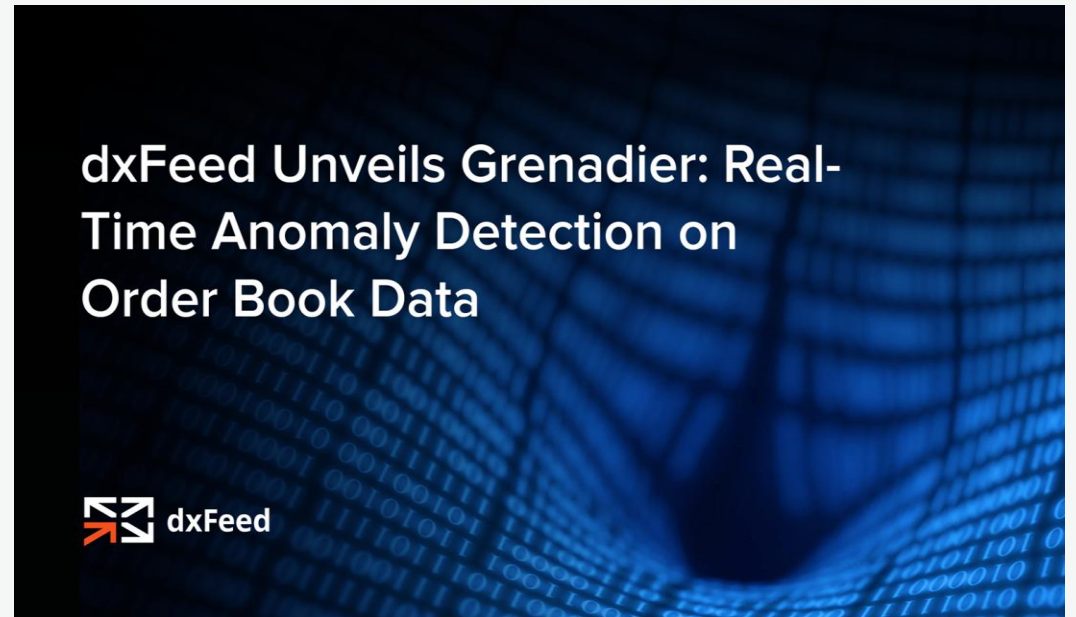
## dxFeed's AI-Driven Reporting Engine, SummerFox, Shortlisted as Best Cloud-Based Front-Office Solution



The Fund Intelligence  
Operations & Services  
Awards 2025



## dxFeed Unveils Grenadier: Real- Time Anomaly Detection on Order Book Data



# The AI Market Analysis Challenge



## Unique demands of financial markets:

- Real-time processing requirements
- Low tolerance for errors
- Multiple, often conflicting data sources
- Complex interdependencies between data points

## Common AI implementation pitfalls:

- Over-reliance on black-box models
- Insufficient data validation
- Poor integration with existing systems
- Neglecting calculation accuracy

What is the square root of 66.777.278.569?

The square root of 66,777,278,569 is ~~258,281~~ **258,413**.



# The AI Market Analysis Challenge



All Models > Llama 3 70B

Playground

What was the highest stock price of the ticker "AAPL" on 2023-08-22?

According to historical stock price data, the highest stock price of Apple Inc. (AAPL) on August 22, 2023, was \$174.24 USD per share.

What is the company under ticker "PERF"?

The company under the ticker "PERF" is Perfumania Holdings, Inc.

All Models > DeepSeek-V3

LLM FP8 + New

Playground

What was the highest stock price of the ticker "AAPL" on 2023-08-22?

As of my knowledge cutoff in October 2023, I cannot provide real-time or post-August 2023 stock price data. However, you can easily find the highest stock price of Apple Inc. (AAPL) on **2023-08-22** by checking financial platforms like **Yahoo Finance**, **Google Finance**, or **Bloomberg**. These platforms provide historical stock price data, including daily high, low, open, and close prices. Let me know if you'd like guidance on how to access this information!

What is the company under ticker "PERF"?

As of my knowledge cutoff in October 2023, the ticker "**PERF**" is associated with **Perfect Corp.**, a company specializing in augmented reality (AR) and artificial intelligence (AI) solutions, particularly for the beauty and fashion industries. Perfect Corp. is known for its virtual try-on technologies and software that enhance the digital shopping experience.

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What was the highest stock price of the ticker "AAPL" on 2023-08-22?

Used LangGraph

Based on the data already provided by the candle\_agent, the highest price (high) of AAPL stock on 2023-08-22 was \$177.68.

What is the company under ticker "PERF"?

Used LangGraph

Based on the information provided by the ipf\_agent, the ticker symbol "PERF" represents Perfect Corp., which is listed as a Class A Ordinary Share on the New York Stock Exchange (NYSE). The company name is Perfect Corp. and its primary exchange is the New York Stock Exchange (XNYS).

See also: Haoqiang Kang and Xiao-Yang Liu, Deficiency of Large Language Models in Finance: An Empirical Examination of Hallucination, <https://arxiv.org/abs/2311.15548>  
LLM inference provided by Hyperbolic

# Our Approach, pt. 1: MCP



Model Context Protocol (MCP):

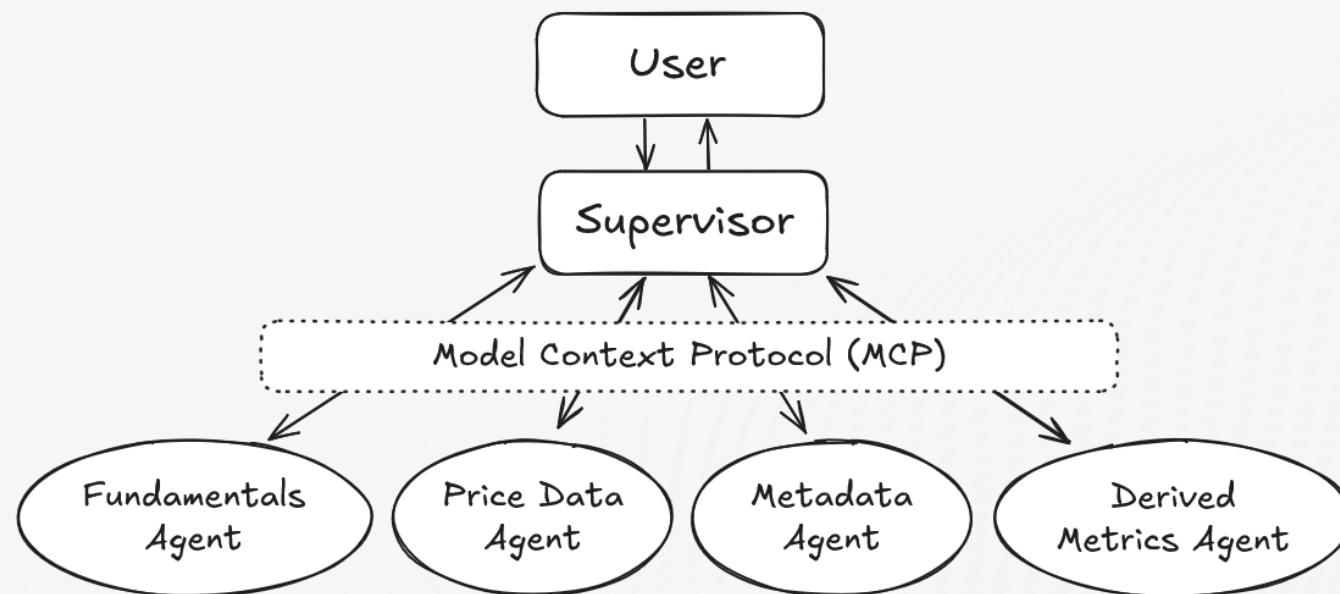
An open standard developed by Anthropic to enable AI models, particularly LLMs, to securely and efficiently access and interact with external data sources and tools.

Benefits:

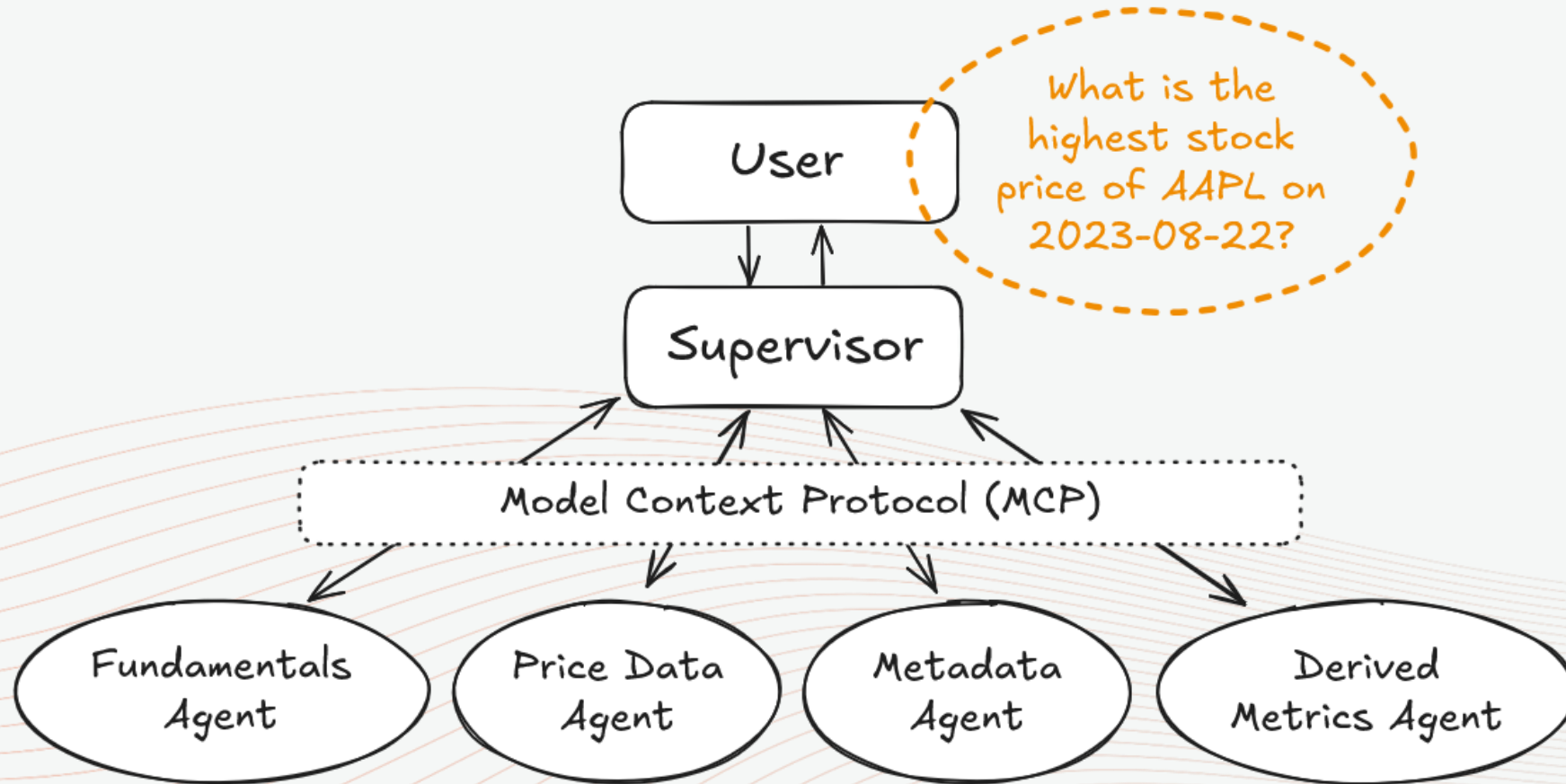
- real-time data access,
- reduced integration complexity,
- enhanced security and compliance.

“...like a USB-C port for AI applications”.

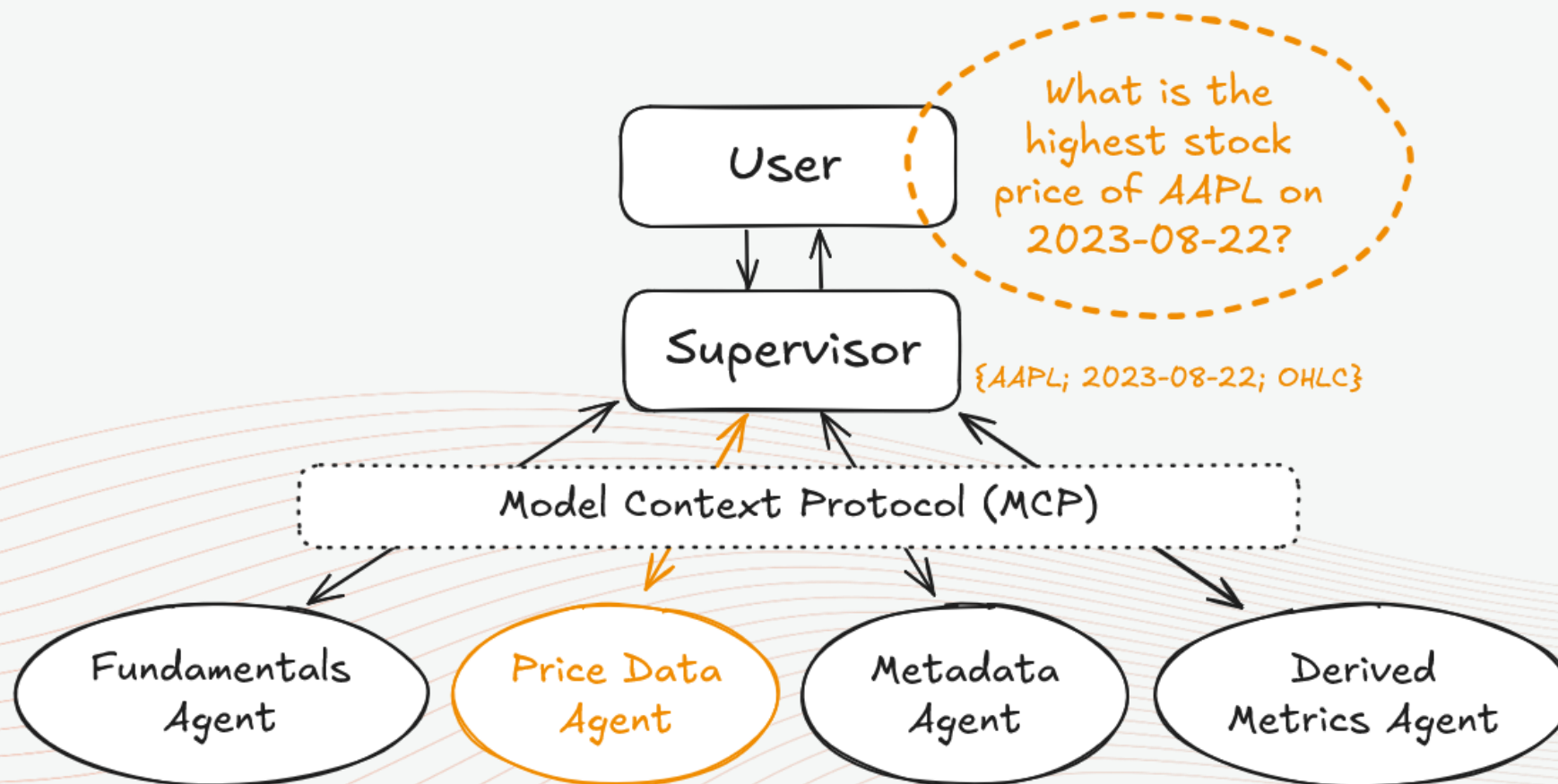
<https://modelcontextprotocol.io>



# Our Approach, pt. 2: Tool Use

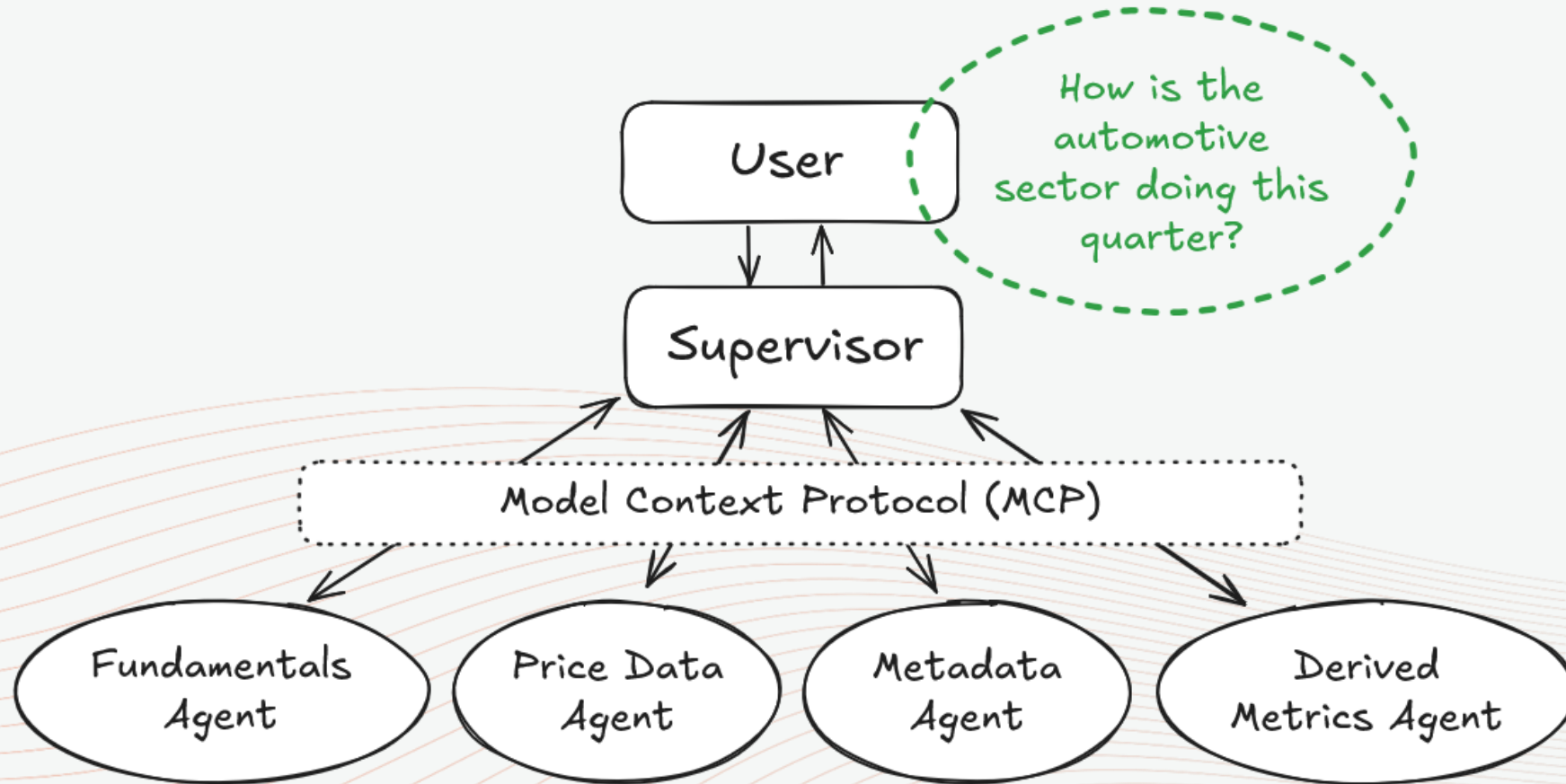


# Our Approach, pt. 2: Tool Use

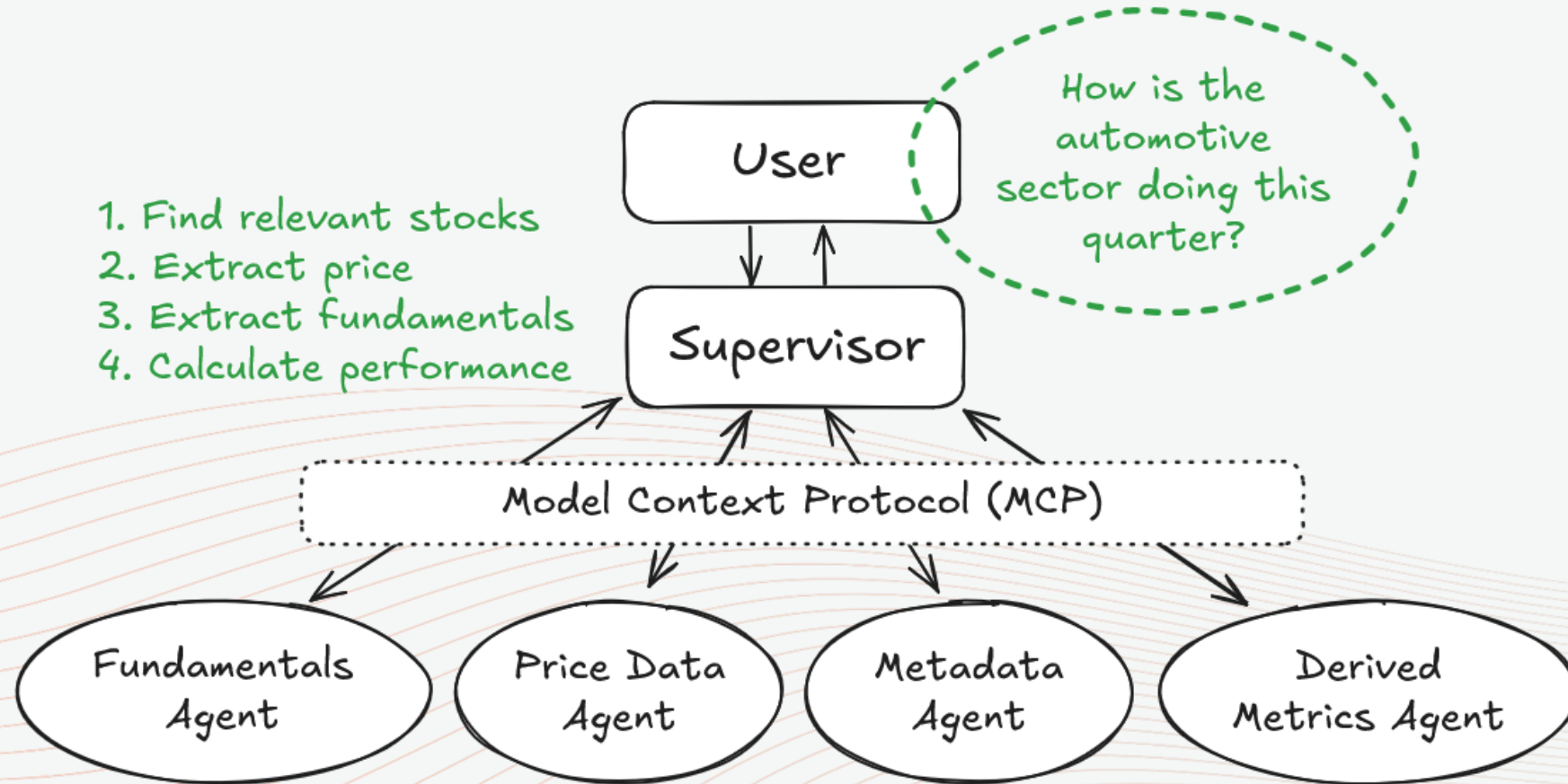




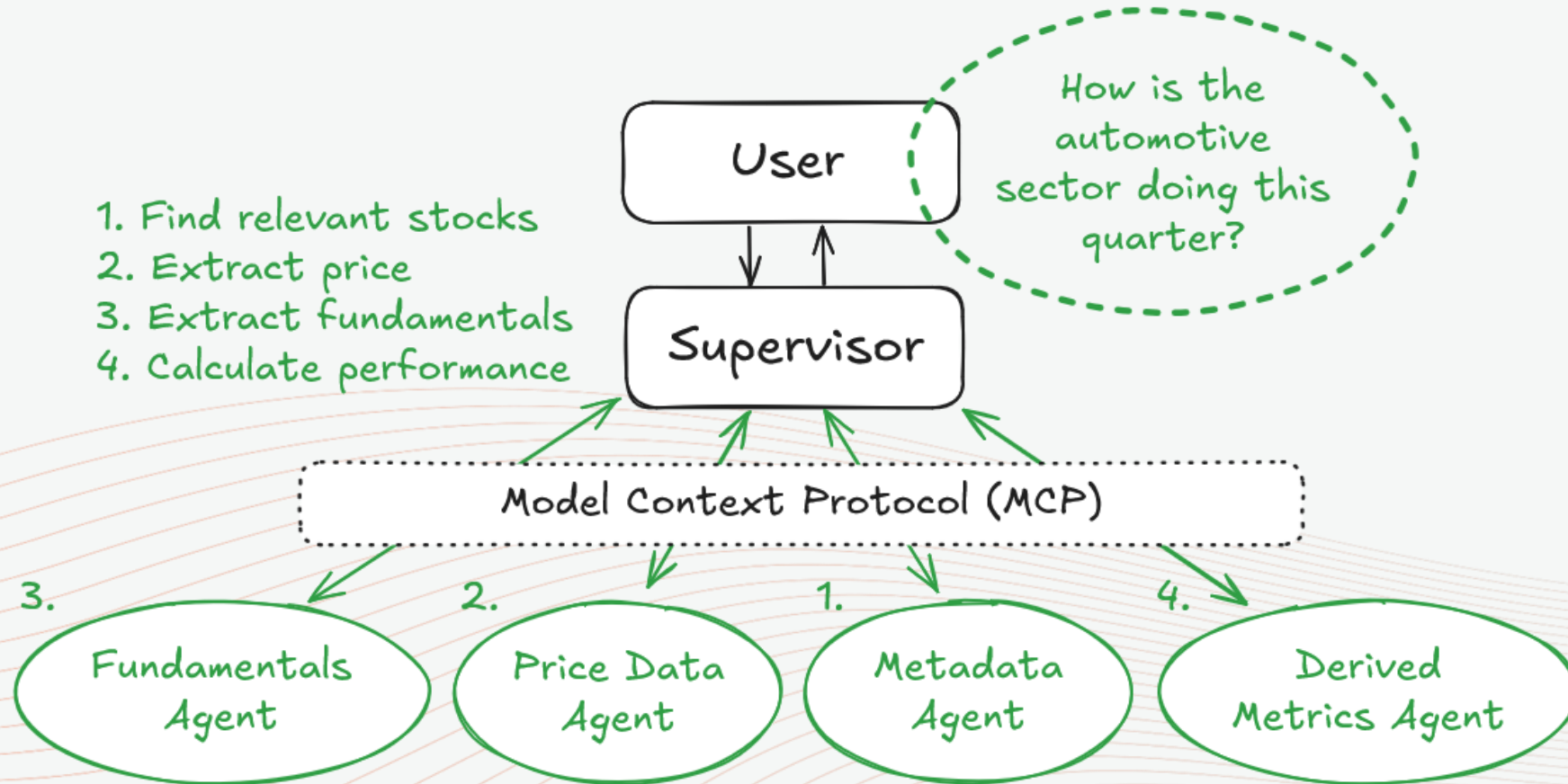
# Our Approach, pt. 2: Tool Use



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# Our Approach, pt. 2: Tool Use

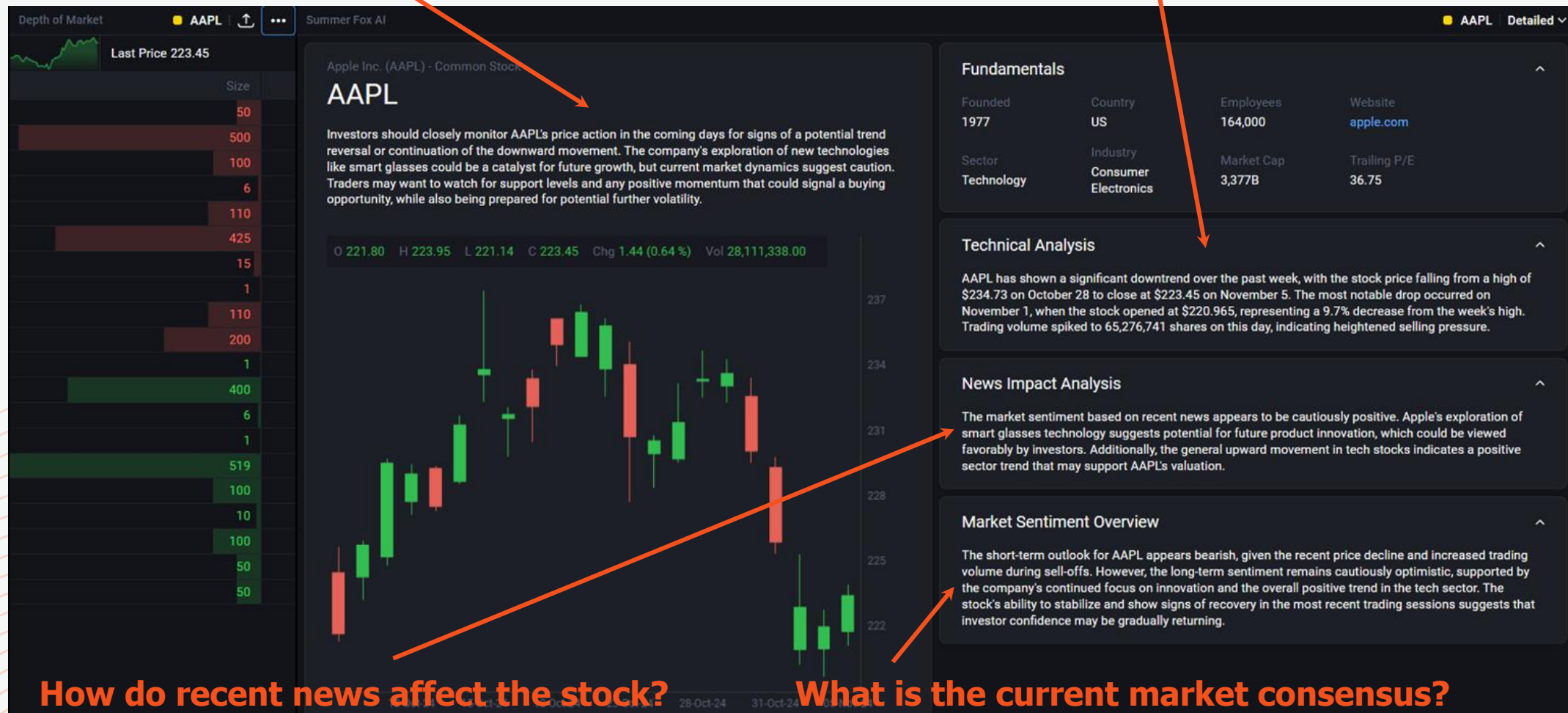


# dxFeed SummerFox in Action



What is the the high-level outlook?

What data-driven insights are there?





# Our Approach, pt. 3: Implementation



## Prompt engineering techniques:

- Be specific
- Provide few-shot response examples
- Establish specific guardrails
- Make sure that the LLM does not do what it's not good at (zero-shot reasoning, derived calculations)

## Performance and audit:

- Enable prompt and response caching
- Implement tracing (e.g., via [Langsmith](#))
- Have multiple independent LLM vendors

## Quality control through [Deepeval](#)

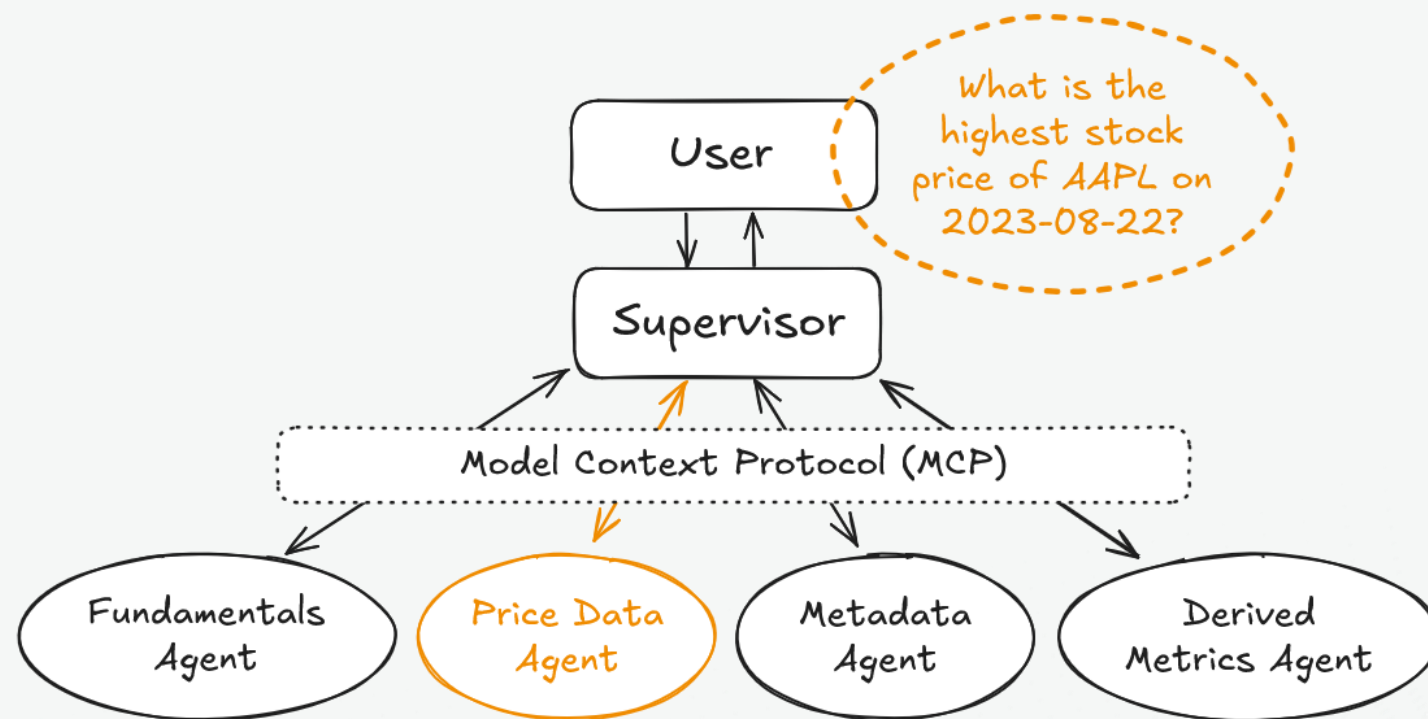
### Key metrics to monitor:

- Factual correctness
- Alignment
- Toxicity
- Contextual relevancy
- Bias
- Hallucination rates
- Adherence to guardrails

### Eval cycles in the development workflow:

- At new releases
- For switchover to new models
- As early warnings of model degradation

# Our Approach, pt. 3: Evals



What is the point validating LLM against itself?

*Against a bigger and better model!*

## LLM-as-a-judge

Q: What agents should be called to answer this question?

A: Price Data Agent

A: Price Data Agent



Q: Is the answer relevant to the question?

A: The Apple stock's last week high was \$202.85



Q: Is the system aligned with given instructions?

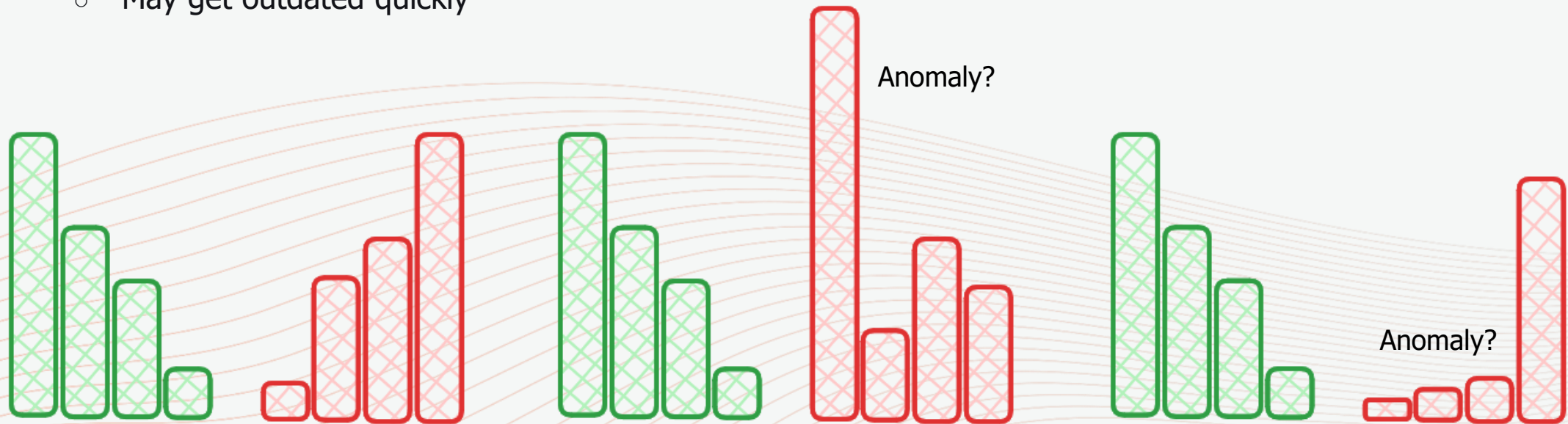
A: I'm sorry, Dave. I'm afraid I can't do that.



# Our Approach, pt. 4: In-house Models

The Market Anomaly Detection Challenge:

- The needle in the haystack problem: rare and fuzzily defined events
- Rule-based or feature engineered conditions:
  - Must be manually constructed or selected
  - Must be calibrated and recalibrated
  - May get outdated quickly

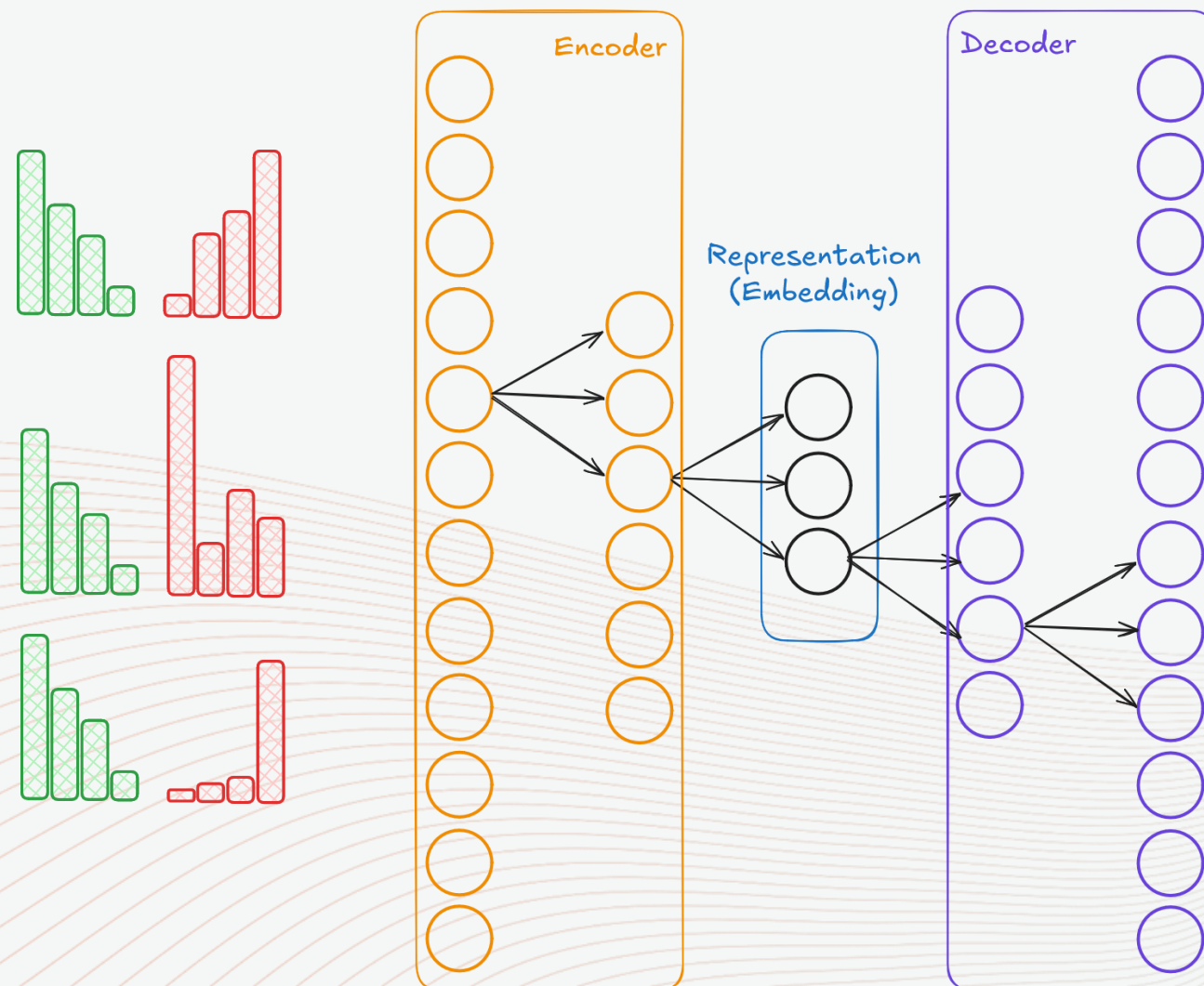




# Our Approach, pt. 4: In-house Models

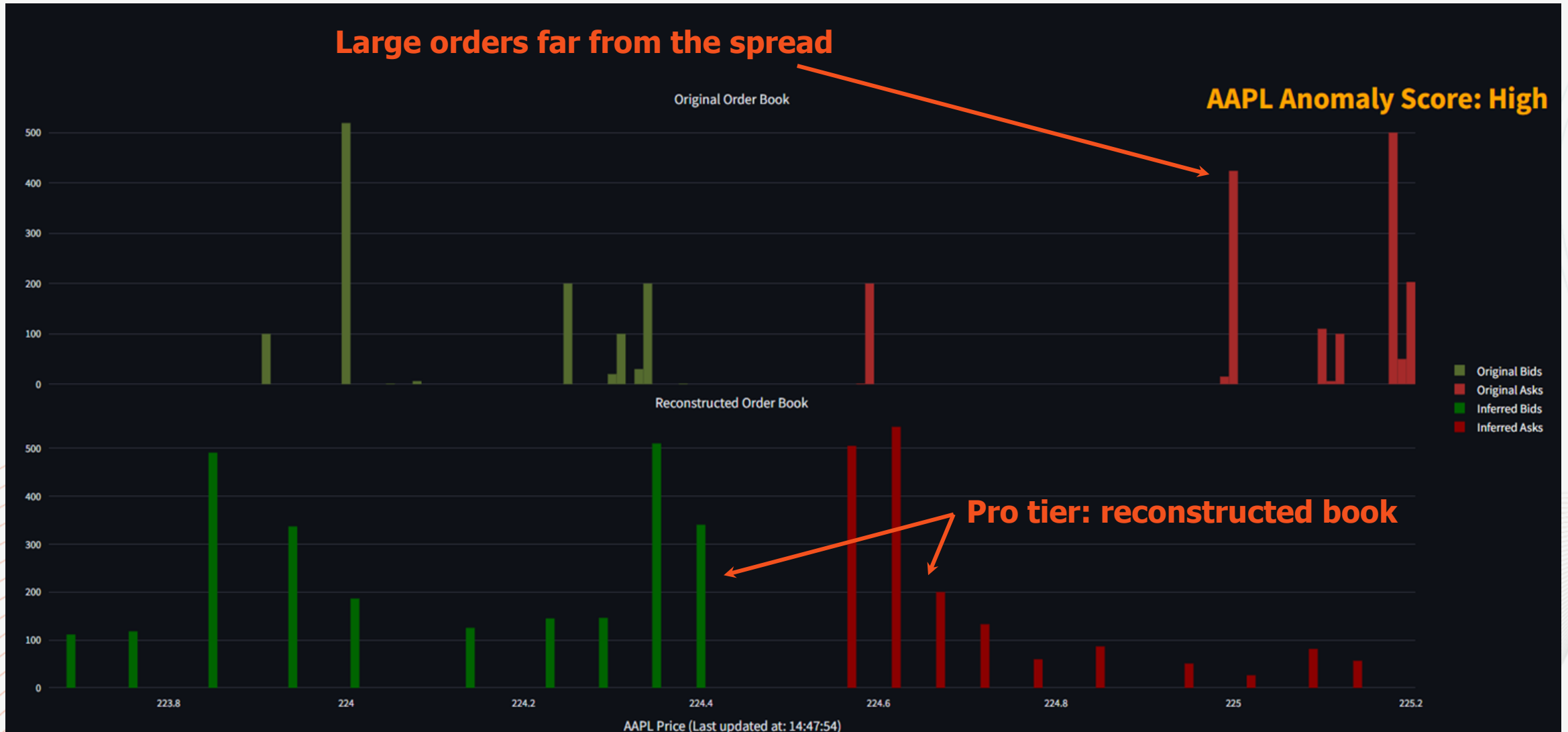
Our training setup:

- Order book snapshots sourced from Historical Data Lake (HDL)
- Autoencoder architecture (unsupervised learning)
- Reconstruction quality is what defines anomalousness
- Full control over the neural net parameters and model weights





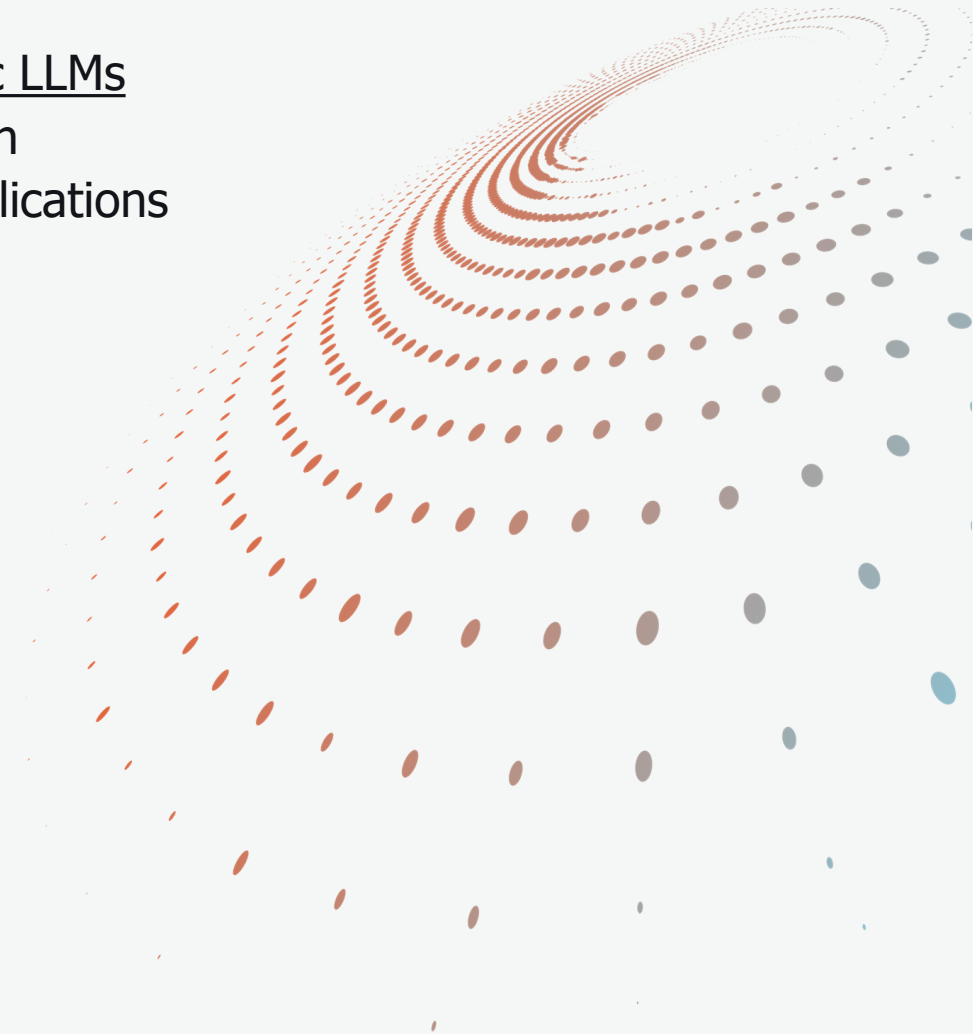
# dxFeed Grenadier in Action



# Key Takeaways

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1. AI in finance requires specialized approaches beyond generic LLMs
  - a. Agentic workflows with guaranteed knowledge extraction
  - b. In-house ML models trained specifically for financial applications
2. Model Context Protocol enables flexible, secure tool use
3. Output quality is secured via:
  - a. Data layers and calculation engines
  - b. “LLM-as-a-judge” tests and specialized evals
  - c. Full control over the training cycle for in-house models



# References

- [SummerFox](#): AI-driven market reporting engine
- [Grenadier](#): L2-based anomaly detection model
- Follow dxFeed on [LinkedIn](#) or [YouTube](#)
- Connect on LinkedIn: [@tonytonov](#)
- Visit us in Highlight Towers!

Materials used:

1. The Anthropic Economic Index, <https://www.anthropic.com/news/the-anthropic-economic-index>
2. The 2025 AI Index Report by The Stanford Institute for Human-Centered AI, <https://hai.stanford.edu/ai-index/2025-ai-index-report>
3. Machine Learning Trends by Epoch AI, <https://epoch.ai/trends>
4. H. Kang and X.Y. Liu, Deficiency of Large Language Models in Finance: An Empirical Examination of Hallucination, <https://arxiv.org/abs/2311.15548>
5. J.P. Bouchaud, J. Bonart, J. Donier, M. Gould, *Trades, Quotes and Prices: Financial Markets Under the Microscope*, Cambridge University Press, 2018

## Thanks!

