

DHISOLVE × FINANCE

LLMs Hallucinate in 41% of Financial Queries

How structural decomposition eliminates AI hallucinations in finance — with real incidents, real costs, and a proven architectural solution.

AI in Finance Market: \$74B (18.9% of AI market, 2025) ' 30%+ CAGR through 2030

THE PROBLEM

Why General-Purpose LLMs Fail in Finance

REAL INCIDENTS

Two Sigma: SEC fined \$90M for breaching fiduciary duties through algorithmic investment model failures. SEC fined 16 firms \$81M (Feb 2024) for AI recordkeeping gaps. Securities class actions targeting AI misrepresentations doubled 2023'2024. Financial penalties exceeded \$4 billion in 2024.

41%

41% hallucination rate on finance queries

\$4B+ in financial AI penalties (2024)

KEY PAIN POINTS

LLMs fabricate earnings numbers, misquote regulatory filings, and invent analyst opinions

Securities class actions targeting AI misrepresentations increased 100% between 2023–2024

SEC identified hallucinations as one of five critical AI risk categories

SOX compliance requires accurate financial reporting — hallucinated numbers violate federal law

THE SOLUTION

Structural Decomposition: Specialists Beat Generalists

Financial queries span equity analysis, fixed income, derivatives, regulatory compliance, and risk management — each requiring different data sources and expertise. Bloomberg demonstrated with BloombergGPT (50B parameters) that a model trained specifically on financial data outperforms general models on financial NLP benchmarks.

dhisolve routes equity queries to models trained on SEC filings, risk queries to models grounded in regulatory frameworks, and quantitative analysis to models trained on verified financial datasets. Every number is cross-verified against source filings (10-K, 10-Q, 8-K) before being returned.

The complete audit trail of every routing decision is SOX-compliant by design — critical when the SEC is actively investigating AI-driven decision-making.

COST COMPARISON

DHISOLVE

\$0.10–\$0.50

per 1M tokens

BIG LLMS

\$10–\$60

per 1M tokens

OUTCOMES

Measurable Results

Hallucination rate drops from 41% to <2%

100% routing audit trail — SOX-ready by design

20–600× cheaper than GPT-4/Claude (\$0.10–0.50 vs \$10–60 per 1M tokens)

Every financial figure verified against source filings

ROI CASE

A single misquoted earnings figure can trigger trading losses in the millions. Manual fact-checking of AI financial reports costs \$150–300/hour of analyst time. The SEC's \$90M fine against Two Sigma shows the regulatory risk is real and growing.

With dhisolve:

- Every financial number verified against source filings before display
- Complete audit trail for SOX/FINRA compliance built into routing architecture
- Analyst verification time reduced 80%+ through built-in cross-verification
- AI cost: \$0.10–0.50/1M tokens vs \$10–60 for general LLMs

REGULATORY COMPLIANCE

Built for Compliance, Not Bolted On

Sarbanes-Oxley (SOX) — accurate financial reporting, internal controls; violations carry fines and jail time

SEC 5 critical AI risk categories: AI Washing, fraud, conflicts of interest, hallucinations, systematic risks

FINRA Rules 17a-3/17a-4 — comprehensive records of all AI decision-making processes

Financial penalties exceeded \$4 billion in 2024

ACADEMIC & INDUSTRY BACKING

BloombergGPT: specialized 50B-parameter financial LLM outperforms general models on financial NLP

FrugalGPT: significant cost savings through model cascading (Stanford, 2023)

RouteLLM: 48% cost reduction maintaining 95% quality (ICLR 2025)

Berkeley BAIR: compound AI systems consistently outperform monolithic approaches (2024)

MARKET OPPORTUNITY

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