# ClearPath: Multi-Agent Investment Advisory Committee

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2026 Duke MIDS Capstone Symposium

Duke MIDS Master in Interdisciplinary Data Science

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## Introduction

LLM-based multi-agent systems are increasingly used for financial analysis, but consensus-driven frameworks often suffer from conformity bias, with agents echoing prior reasoning instead of verifying evidence. We proposed FinCom, a multi-agent investment framework, and introduce Disagree-or-Commit (DoC), a protocol that enforces structured dissent in AI investment committees.

## System Architecture

FinCom operates via a central Supervisor that orchestrates a committee of three specialized, tool-augmented ReAct agents.

**Research Agent** synthesizes qualitative data using SEC fillings, earnings transcripts, and macro news.

**Quant Agent** computes technical indicators, executes backtests, and runs cross-asset statistical analysis.

$$SMA_t^{(n)} = \frac{1}{n} C_{t-i}, MACD_t = EMA_t^{12} - EMA_t^{(26)},$$

$$RSI_t = 100 - \frac{100}{1 + RS_t}, RS_t = \frac{AvgGain}{AvgLoss},$$

$$R_t = \frac{C_t - C_{t-1}}{C_{t=1}}, p_{ij} = \frac{Cov(R_i, R_j)}{\sigma_i \sigma_j}$$

**Risk Agent** translates quantitative evidence (e.g. voliality, Value-at-Risk) into downside-aware portfolio assessment.

$$r_t = \ln(P_t / P_{t-1}), \sigma_{\text{annual}} = \sigma(r_t)\sqrt{252},$$

$$\text{MaxDD} = \min_t \left( \frac{P_t - \max_{i \le t} P_t}{\max_{i \le t} P_t} \right),$$

$$\text{VaR}_1 = P_0 \cdot |\text{percentile}_{1-\alpha}(r_t)|$$

## Disagree-or-Commit (DoC)

FinCom uses a lightweight rule called Disagree-or-Commit (DoC). Before responding, each agent reviews the prior agent's reasoning and either:

**Disagree:** point out an error, contradiction, unsupported claim, or missing evidence, and correct it; or

**Commit:** endorse the reasoning and add a new supporting fact or clarification.

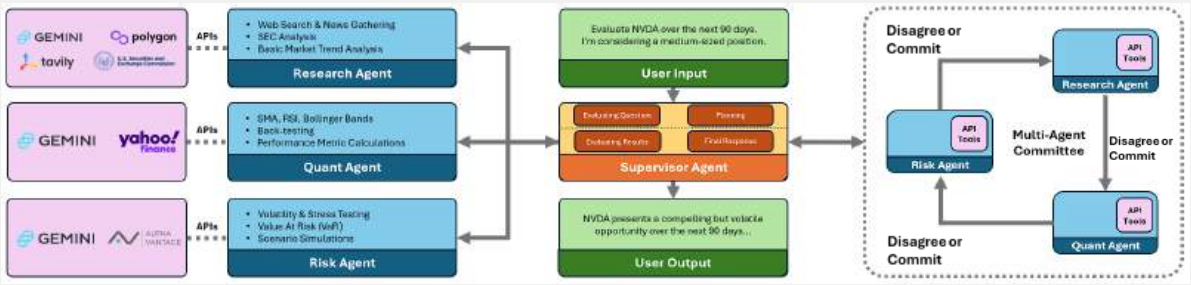


Figure 1. FinCom architecture with Disagree-or-Commit (DoC)

## Demonstrations

FinCom is designed for usability in real-world analyst scenarios, supporting two primary modes:

- **Generate Report** transform user query into investment report combing Research, Quant, and Risk viewpoints.
- **Committee Chat** allows users to interactively consult a single specialist or the entire committee, making the deliberation transparent.

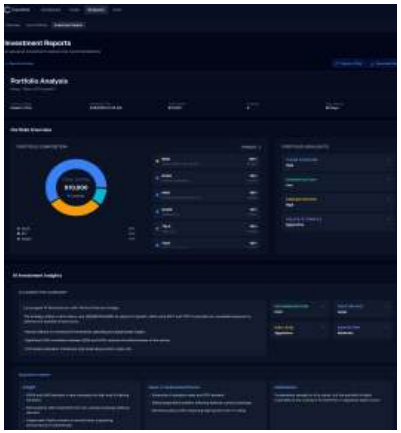

Figure 2. Sample report generated by FinCom

## Evaluation & Results

We evaluated FinCom against baselines using an LLM-as-a-Judge protocol across 90 internal financial tasks and the external FinAgent Benchmark. The DoC architecture achieved a 74.9% overall average accuracy, vastly outperforming the base and standard committee.

| Methods | Research | Quant Finance | Risk Management | Fin Agent | Overall Avg |
|---|---|---|---|---|---|
| LLM | 53.3% | 66.7% | 73.3% | 24.0% | 54.3% |
| LLM + Tools (ReAct) | 36.7% | 73.3% | 53.3% | 46.0% | 52.3% |
| Supervisor + Agents | 42.9% | 92.9% | 70.8% | 52.0% | 64.7% |
| Supervisor-Committee | 46.4% | 88.9% | 59.3 | **66.0%** | 65.2% |
| **Supervisor-Committee + DoC** | **54.2%** | **96.3%** | **90.5%** | 58.7% | **74.9%** |

**Table 1. Performance across financial reasoning tasks for different agent architecture**

## Conclusion

FinCom demonstrates that treating multi-agent deliberation as a governed, systems-level problem significantly improves response quality on realistic financial analysis tasks. By combining role specialization, tool grounding, and explicit coordination, the system paves the way for more transparent and auditable AI decision support.