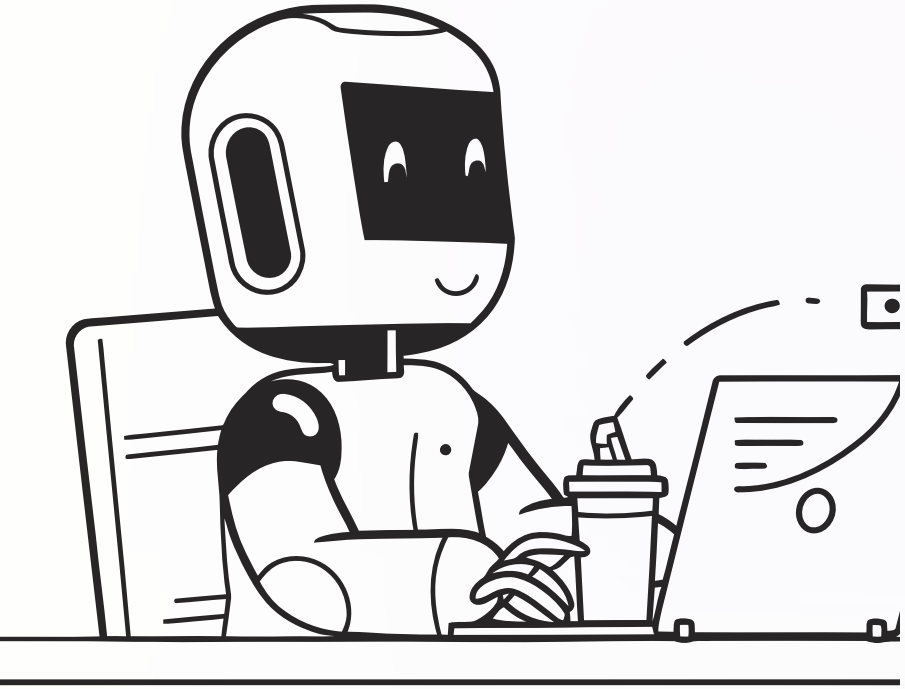
Hi! I Am Jayeeta

Lead DS, Director AI CoE - Emerging Tech, **Fitch Group;** Chapter Lead, **WAI NYC**

- Focus on Gen AI model implementation for Fintech usecases. Specialize in NLP/ Statistics
- Awarded the AI100 award in the Generative AI category 2024 by AIM Research
- More than 40+ tech talks, Technical Paper Reviewer @ACM/NeurIPS
- Ambassador at WiDS Stanford, Girl up @ UN, Top 1% mentor at Topmate



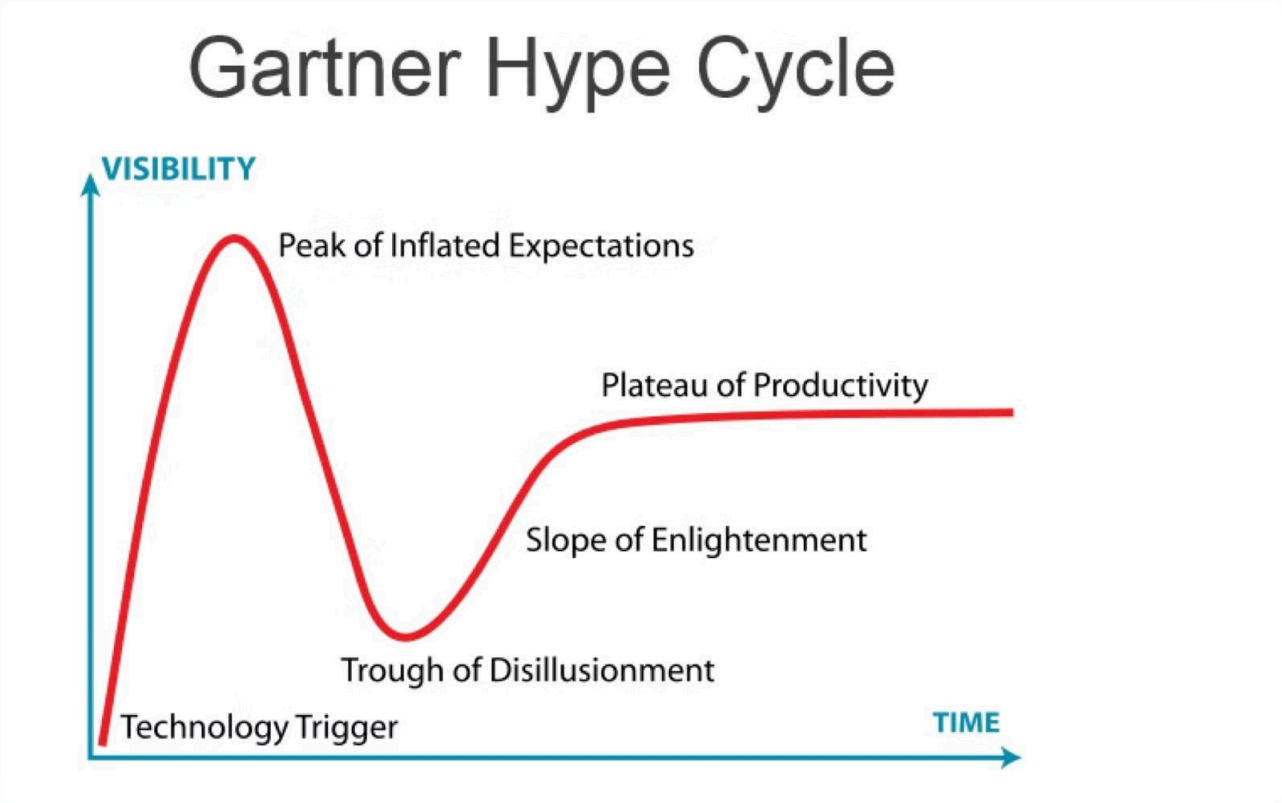
Building Financial Agents

This session explores:

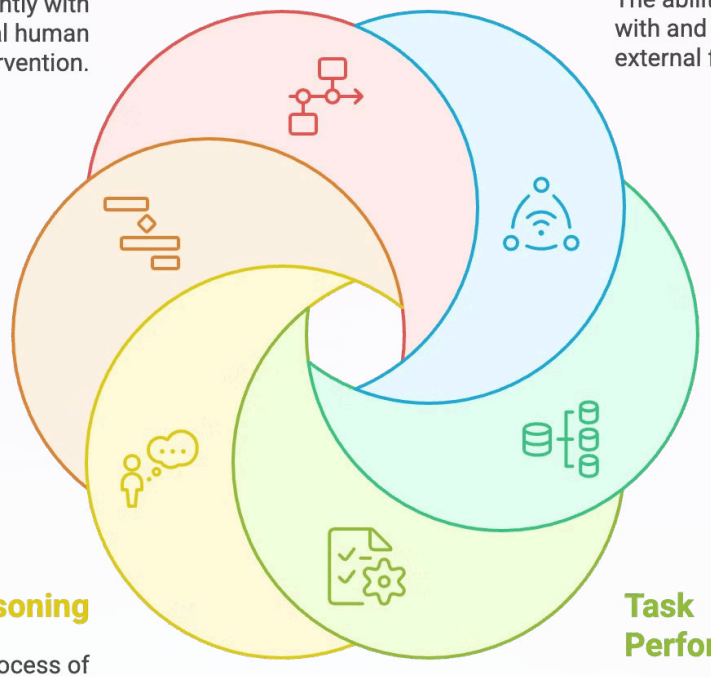
1. Setting Context: AI Agents vs Agentic AI
2. Applications in Financial Services
3. Code-along: Building a Financial AI Agent
4. Evaluation Frameworks

by Jayeeta Putatunda

Agentic AI hype cycle: What stage are we in?



Understanding AI Agents



Autonomy

Operating independently with minimal human intervention.

Interaction with Environment

The ability to engage with and respond to external factors.

Planning

Strategizing actions to meet objectives.

Data Collection

Gathering information from various sources.

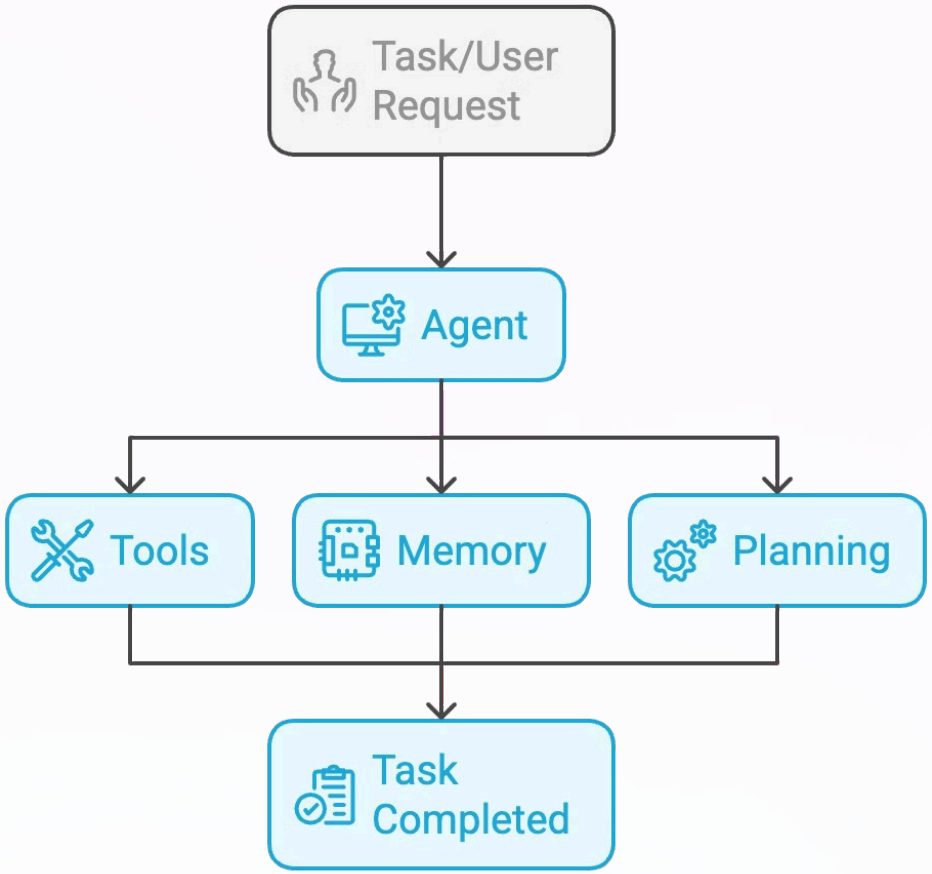
Reasoning

The process of logical thinking and problem-solving.

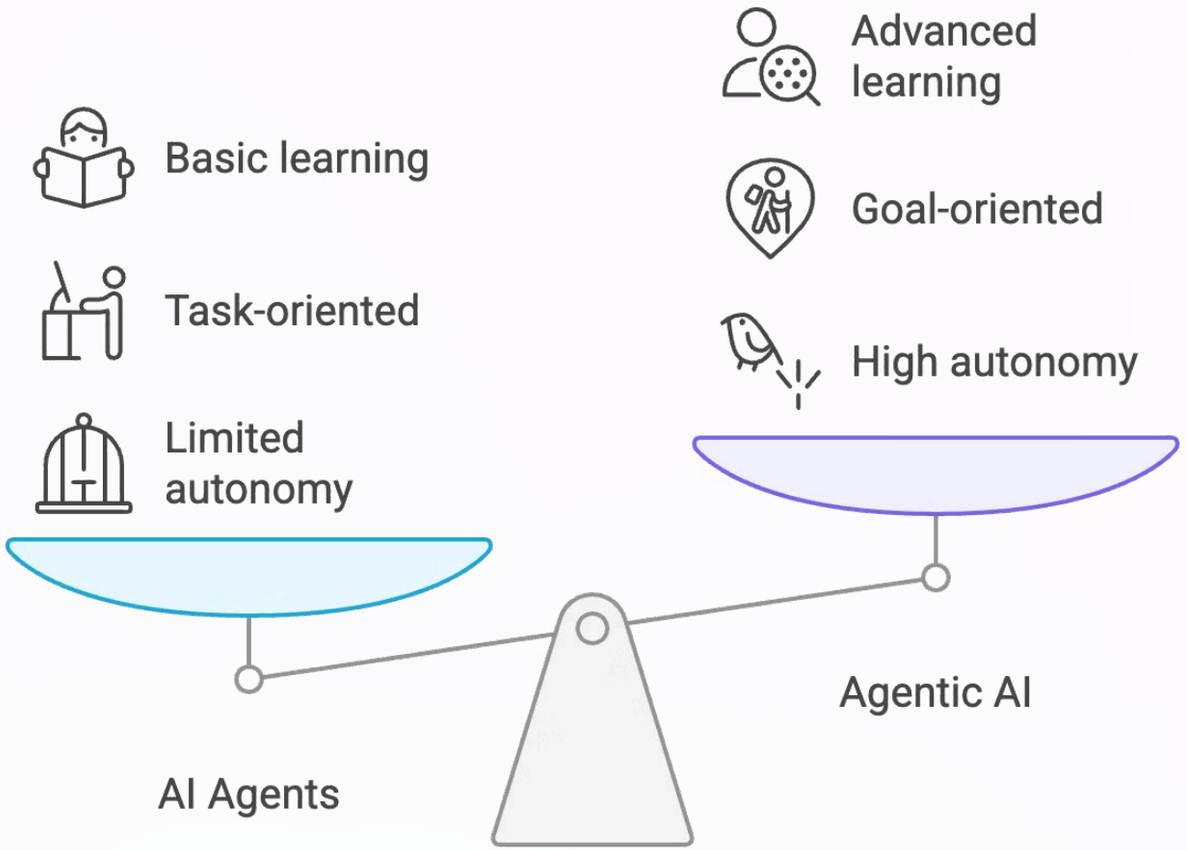
Task Performance

Executing actions to achieve specific goals.

AI Agents Components



AI Agents vs Agentic AI

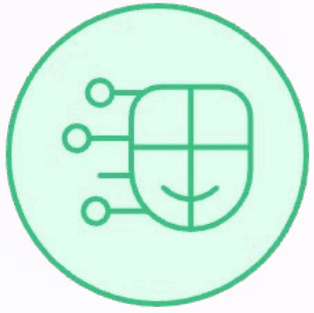


Choose the best AI Approach for your needs: *Problem-First rather than Fancy-Tech-First*

AI Agents

Focus on task-specific, isolated operations

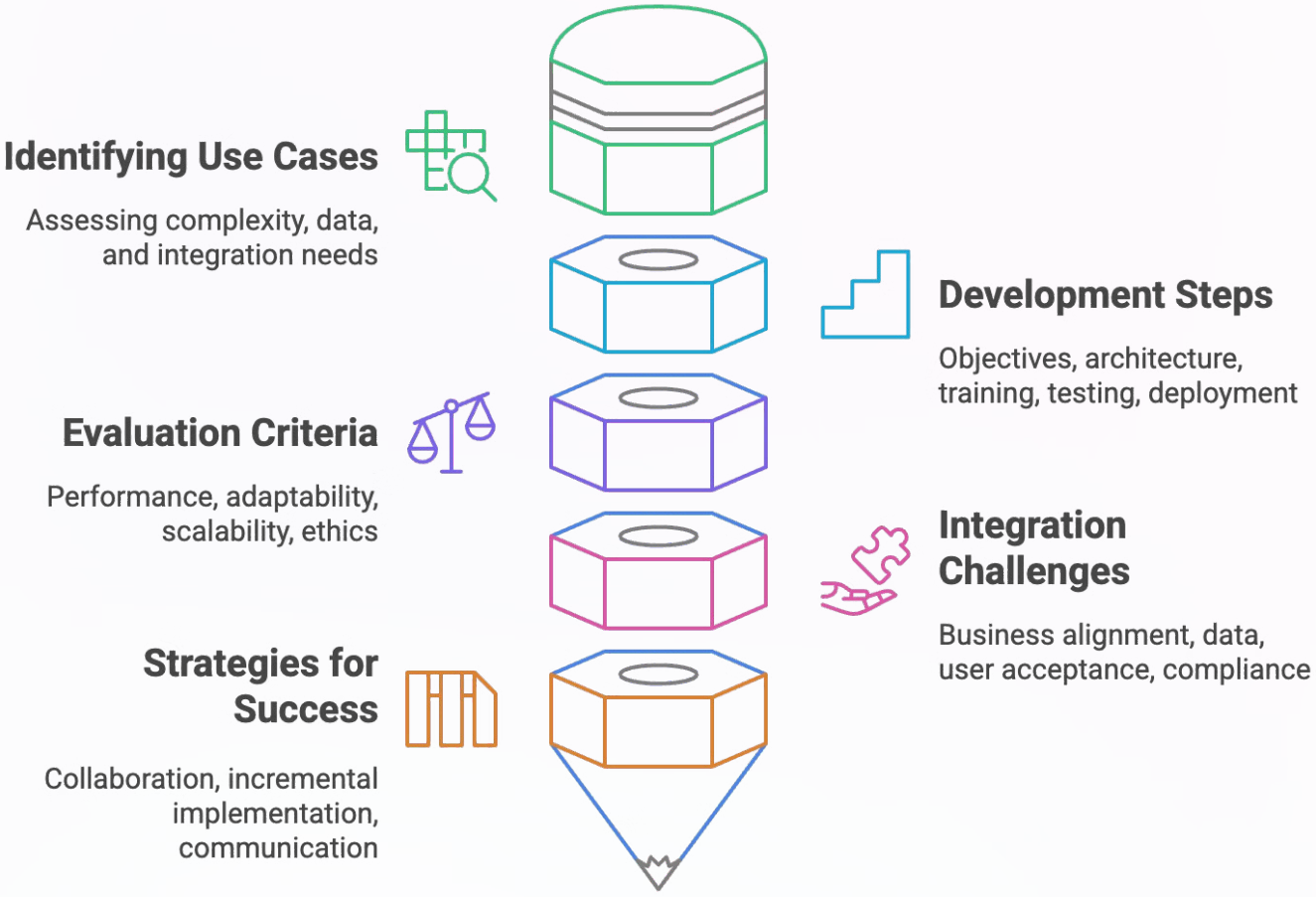
VS



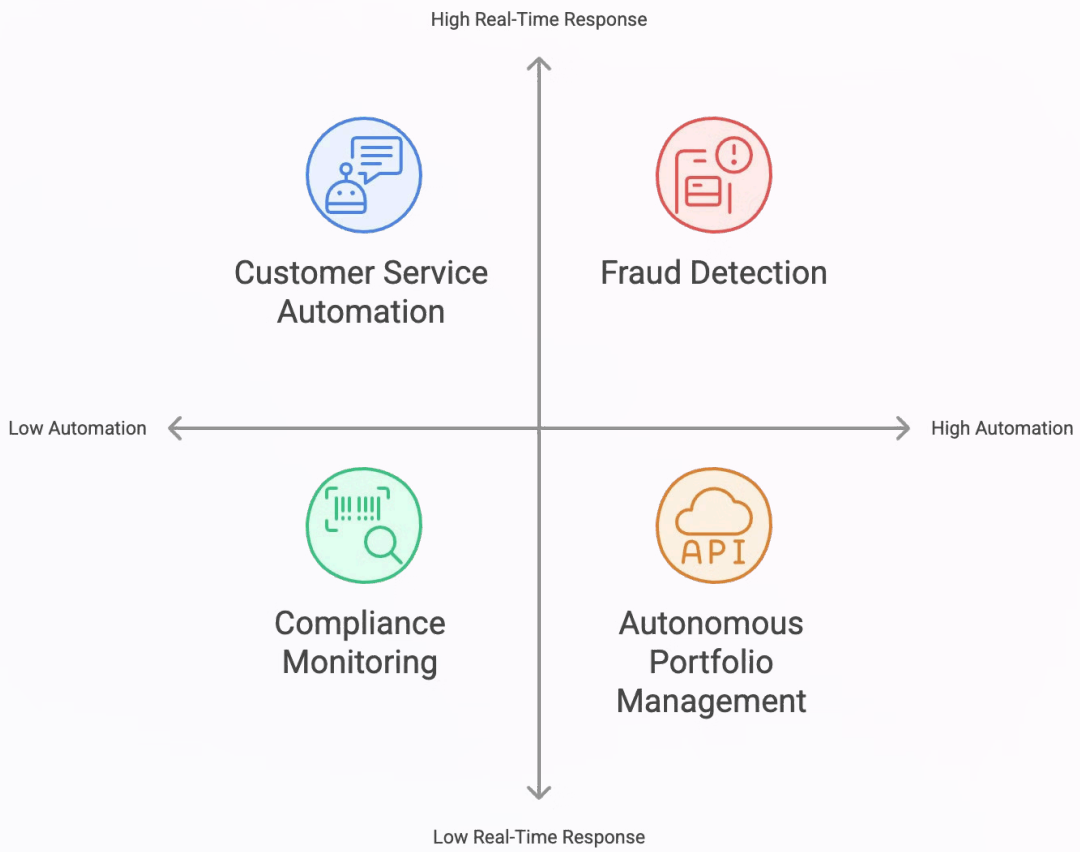
Agentic AI

Emphasize networked, collective intelligence

AI Agents - How to start thinking about them?



Applications in Financial Services



Streamlining Operations

AI agents can automate repetitive tasks, improving efficiency.

Customer Engagement

Adaptive robo-advisors offer tailored financial advice, improving customer satisfaction.

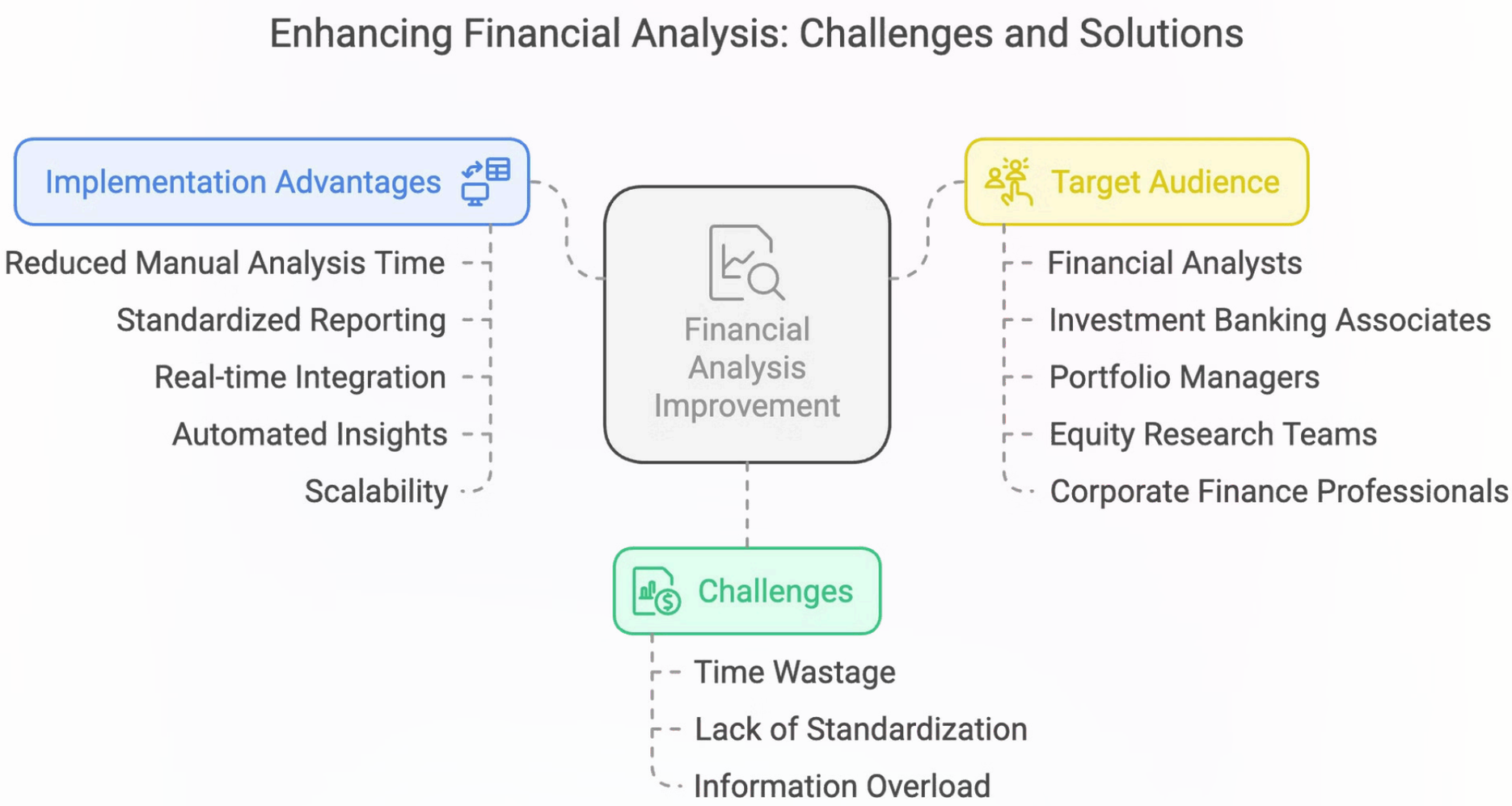
Risk Management

Provides real-time credit scoring, offering up-to-date evaluations.

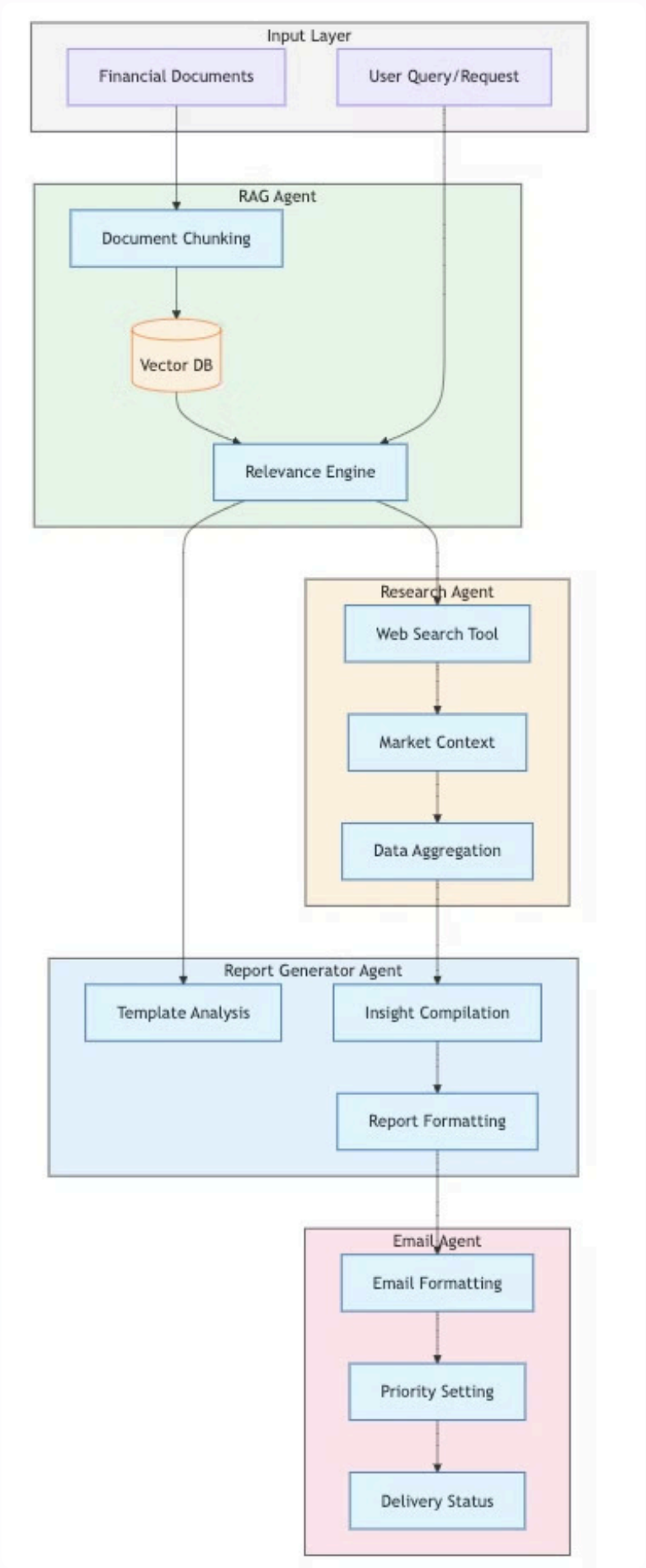
Automated Trading

Agentic AI utilizes advanced algorithms to execute trades at high speeds, capitalizing on market opportunities.

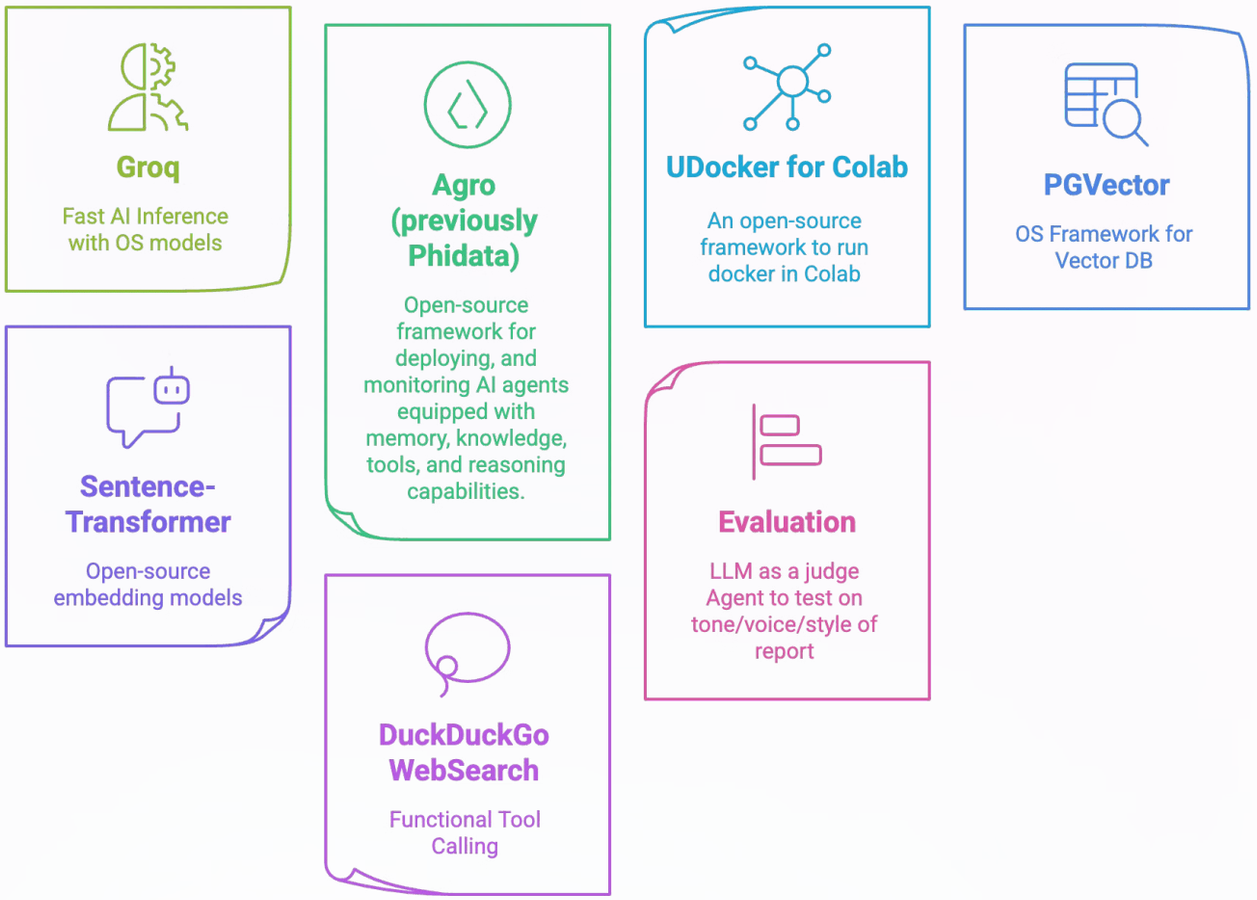
Today's Use-Case:



Financial Analysis Report Generator Agent Workflow



AI Agent - Open Source Solution Framework



Let's Start Coding!

Evaluation: A MUST HAVE FRAMEWORK

Example of Self-Reflection

Paper: [Self-Reflection in LLM Agents: Effects on Problem-Solving Performance]

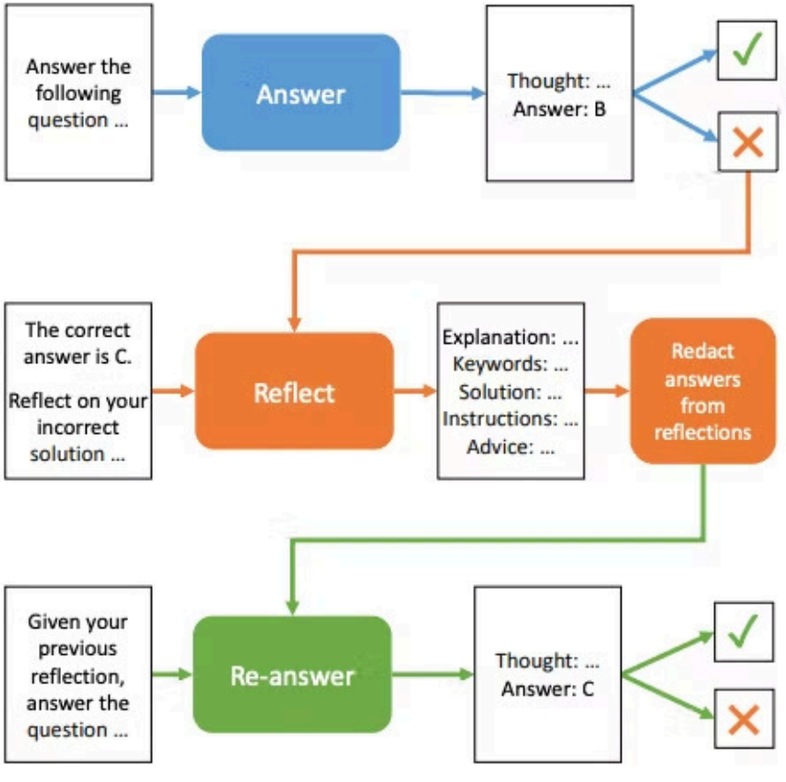


Figure 1: Diagram of the self-reflection experiment.

Algorithm 1 Self-reflection Experiment (Batch)

for each model, exam, and problem **do**
    Create the answer prompt
    Answer the question
    if the answer is incorrect **then**
        Add the problem to the incorrect list
    end if
end for
Calculate the Baseline agent scores

for each model, exam, and problem **do**
    Reflect upon the incorrect solution
    Generate the self-reflections
    if not the Unredacted agent **then**
        Redact the answers
    end if
    Separate the reflections by type
end for

for each model, agent, exam, and problem **do**
    Create the re-answer prompt
    Inject the agent's reflection
    Re-answer the question
end for
Calculate the reflected agent scores

Conclusion and Q&A

Agentic AI presents a powerful opportunity to operationally streamline various industries. However, it’s crucial to evaluate use cases carefully and prioritize ethical considerations.

Are there any questions?