

Agentic AI: Autonomous Monitoring and Compliance

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Abstract

With the rapid advancement in the fields of artificial intelligence and natural language processing, including Large Language Models (LLMs) (Brown et al. 2020) and Agentic AI systems (Park et al. 2023), every industry is striving to leverage these technologies to automate its processes and decision-making capabilities. One of the complexities related to the adoption of technological advancements is ensuring adherence to ever-evolving compliance procedures. Traditional approaches to managing compliance changes are proving inadequate; they are typically reactive, prone to human error, and resource-intensive, with any delay potentially resulting in significant financial consequences.

This paper proposes an Agentic AI-driven solution to fundamentally transform continuous monitoring and compliance within highly dynamic industries, such as the Financial Services Industry. The proposed framework orchestrates a group of intelligent AI agents, each utilizing an LLM to specialize in distinct tasks. The use of natural language understanding to interpret unstructured text data, monitor real-time operational information, and identify potential non-compliance or emerging risks are among the high-level functions that AI agents are expected to perform. The AI agents can autonomously process new regulations, internal policies, and historical compliance data, enabling proactive identification of non-compliance and generating actionable insights with relevant explanations (Ferrag, Koucha, and Rahmani 2025; Yao et al. 2022). These actionable insights are meant to reduce manual effort, enhance compliance accuracy, and provide a scalable solution for continuous monitoring and policy adherence (Sapkota et al. 2025).

Along with the autonomous execution of monitoring and compliance requirements, the paper will also explore some of the risks associated with using Agentic AI and highlight the need for limited human oversight to ensure overall accuracy in the process. The paper will primarily focus on the compliance checks needed for the financial services industry.

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