1

Article

Policy Framework and Implementation Guidelines for Agentic GenAI Integration in Food Safety Systems

World Journal of Biology Pharmacy and Health Sciences 23 (3) , pp.303-315

This paper presents a comprehensive review of artificial intelligence (AI) applications in food safety and quality control, focusing on emerging technologies including generative AI, agentic AI systems, and automated compliance solutions. This review synthesizes current research and industry appl

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2

Article

Securing U.S. AI Leadership: A policy guide for regulation, standards and interoperability frameworks

International Journal of Science and Research Archive 16 (3) , pp.001-026

The rapid proliferation of Artificial Intelligence (AI) systems across diverse sectors—including healthcare, critical infrastructure, and digital experiences—has unveiled critical interoperability challenges that poses a challenge to the ongoing innovation, safety, equitable access, and the globa

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Article

Gen AI in Financial Cybersecurity: A Comprehensive Review of Architectures, Algorithms, and Regulatory Challenges

International Journal of Innovations in Science Engineering And Management , pp.73-88

This paper provides a comprehensive review of the intersection of cybersecurity, generative AI, and risk within the financial sector. We explore how AI is being leveraged for both defensive and offensive purposes, the emerging threats posed by GenAI, and the critical need for robust risk manageme

4

Article

Stochastic Modeling and Itô Calculus for Asset Backed Securities: A Practical Introduction within the Basel III and FRTB Framework

World Journal of Advanced Research and Reviews 26 (3) , pp.2546-2573

This paper synthesizes the mathematical foundations of risk management for Asset-Backed Securitization (ABS) in light of the latest regulatory framework. We present a compilation of essential quantitative techniques, regulatory frameworks, and computational methods that form the core knowledge ba

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Article

Architectures and Challenges of AI Multi-Agent Frameworks for Financial Services

Current Journal of Applied Science and Technology 44 (6) , pp.52-72

Artificial Intelligence (AI) multi-agent frameworks are enabling autonomous decision-making, intelligent collaboration, and the automation of complex workflows. These frameworks leverage Large Language Models (LLMs) and distributed AI systems to optimize operations across diverse sectors, with fi

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6

Article

The Role of AI in Enhancing Teamwork, Resilience and Decision-Making: Review of Recent Developments

International Journal of Computer Applications 187 (8) , pp.9-26

7

Article

A Comprehensive Review of Gen AI Agents: Applications and Frameworks in Finance, Investments and Risk Domains

International Journal of Innovative Science and Research Technology , pp.1339-1355
This paper surveys the landscape of AI agent frameworks, highlights their core features and differences, andexplores their applications in financial services. We synthesize insights from recent industry reports, academic research,and technical blog posts, focusing on frameworks such as CrewAI, La

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8

Article

Comprehensive review of Artificial General Intelligence (AGI): Applications in Business and Finance

International Journal of Advances in Engineering and Management 7 (5) , pp.250-261
This paper delves into themultifaceted realm of Artificial General Intelligence(AGI), exploring its definition, evolution, potentialapplications, and the ongoing debates surroundingits development. We examine AGI's theoreticalunderpinnings, contrasting it with narrow AI andartificial superintelli

9

Article

Generative AI in Investment and Portfolio Management: Comprehensive Review of Current Applications and Future Directions

International Journal of Innovative Research in Engineering & Management 12 (2) , pp.1-12
Generative Artificial Intelligence (GenAI) is rapidly transforming the landscape of portfolio and investment management. This paper provides a comprehensive survey of GenAI applications in the industry, systematically reviewing over 50 contemporary sources. We analyze use cases in portfolio optim

10

Article

Generative AI in Business: Visual Illustrations of Applications and Insights from Q1 2025

International Journal of Advanced Research 13 (04) , pp.172-189

This paper explores the current applications, benefits, and challenges of generative AI in various business do- mains, drawing from recent literature and industry reports from literature published in 2025. We examine key use cases including content creation, knowledge management, business process

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11

Article

Introduction to Generative AI and DevOps: Synergies, Challenges and Applications

International Journal of Advanced Research in Science Communication and Technology , pp.205-225

This paper provides a comprehensive review of the applications of Generative AI in DevOps, analyzing recent advancements, methodologies, and challenges. We examine key contributions from the literature and discuss the future trajectory of AI-driven automation in DevOps workflows. As Software deve

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12

Article

Advancing innovation in financial stability: A comprehensive review of ai agent frameworks, challenges and applications

World Journal of Advanced Engineering Technology and Sciences 14 (2) , pp.117-126

Artificial Intelligence (AI) agents are revolutionizing industries by enabling autonomous decision-making, task execution, and multi-agent collaboration. This paper provides a comprehensive review of AI agent frameworks, focusing on their architectures, applications, and challenges in financial s

13

Article

Review of autonomous systems and collaborative AI agent frameworks

International Journal of Science and Research Archive 14 (2) , pp.961-972
This paper provides an in-depth review of the latest AI agent frameworks, focusing on the comparison of their features, architectures, and use cases. We examine well-known frameworks such as LangGraph, CrewAI, OpenAI Swarm, AutoGen, and IBM Watsonx.Ai, highlighting their strengths, weaknesses, an

14

Article

Introduction to Vector Databases for Generative AI: Applications, Performance, Future Projections, and Cost Considerations

IARJSET 12 (2)

15

Article

Retraining US Workforce in the Age of Agentic Gen AI: Role of Prompt Engineering and Up-Skilling Initiatives

International Journal of Advanced Research in Science Communication and Technology , pp.543-557
This work reviews U.S. workforce retention, AI upskilling, prompt engineering, workforce development, and automation in the context of recent advancements in agentic generative AI. The rapid integration of artificial intelligence (AI) across industries has raised concerns over potential job displ

16

Article

Generative AI: Mitigating Workforce and Economic Disruptions While Strategizing Policy Responses for Governments and Companies

International Journal of Advanced Research in Science Communication and Technology , pp.480-486

A Systematic Review of AI's Impact on the Labor Market: Challenges, Opportunities, and Future Directions is discussed in this work. The widespread adoption of artificial intelligence (AI) technologies is transforming industries, leading to significant changes in the labor market. This paper explo

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17

Article

Agentic Generative AI and the Future U.S. Workforce: Advancing Innovation and National Competitiveness

International Journal of Research and Review 12 (2) , pp.102-113

This paper presents a systematic review of generative AI applications in workforce development and education. We categorize the literature into key themes and synthesize findings to highlight trends, challenges, and future directions. Expected outcomes include enhanced training efficiency, broade

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18

Article

Review of Data Engineering Frameworks (Trino and Kubernetes) for Implementing Generative AI in Financial Risk

International Journal of Research Publication and Reviews 6 (2) , pp.1461-1470

19

Article

Review of Data Pipelines and Streaming for Generative AI Integration: Challenges, Solutions, and Future Directions

International Journal of Research Publication and Reviews 6 (2) , pp.2348-2357

20

Article

Leveraging prompt engineering to enhance financial market integrity and risk management

World Journal of Advanced Research and Reviews 25 (1) , pp.1775-1785
This paper presents a comprehensive investigation into the role of prompt engineering in optimizing the effectiveness of large language models (LLMs) like ChatGPT-4 and Google Gemini for financial market integrity and risk management. As AI tools are increasingly integrated into financial service

21

Article

Enhancing structured finance risk models (Leland-Toft and Box-Cox) using GenAI (VAEs GANs)

International Journal of Science and Research Archive 14 (1) , pp.1618-1630
This work explores the integration of generative artificial intelligence (GenAI), specifically Variational Autoencoders (VAEs), into statistical and structural financial models, with a focus on the Leland-Toft and Box-Cox frameworks. We conduct a comprehensive review of these models, highlighting

22

Article

Using Gen AI Agents With GAE and VAE to Enhance Resilience of US Markets

International Journal of Computational Science Information Technology and Control Engineering 12 (1) , pp.23-38
In this study, we explore the application of Generative AI (Gen AI) in enhancing interest rate models utilized in financial risk modeling. We employ advanced Gen AI Large Language Models (LLMs), including OpenAI's ChatGPT-4 and ChatGPT-4 Mini, as well as Google's Gemini versions 2.0 and 1.5, to g

23

Article

A Literature Review of Gen AI Agents in Financial Applications: Models and Implementations

International Journal of Science and Research (IJSR) 14 (1) , pp.1094-1100

24

Article

The Synergy of Generative AI and Big Data for Financial Risk: Review of Recent Developments

International Journal For Multidisciplinary Research 7 (1)
This paper presents a comprehensive review of the latest development in Generative AI and Big Data with application in Finance. 2025 is the year of Agentic AI, marking a pivotal shift in generative AI (Gen AI) and its integration with big data. This paper explores the synergies between Gen AI and

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25

Article

Review of Gen AI Models for Financial Risk Management

International Journal of Scientific Research in Computer Science Engineering and Information Technology 11 (1) , pp.709-723
In this paper, we propose and demonstrate a prototype for leveraging Generative AI (GenAI) in financial risk analysis, specifically focusing on fine-tuning GPT models with proprietary data. Financial risk modeling, development, validation, and approval require not only advanced AI techniques but

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26

Article

Training US Workforce for Generative AI Models and Prompt Engineering: ChatGPT, Copilot, and Gemini

International Journal of Science Engineering and Technology 13 (1) , pp.1-11

27

Article

A Survey of Mixture of Experts Models: Architectures and Applications in Business and Finance

International Journal of Future Engineering Innovations 2 (3) , pp.127-134

This paper provides a comprehensive overview of MoE, covering its fundamental principles, architectural variations, advantages, limitations, and potential future directions. We delve into the core concepts of MoE, including the gating network, expert networks, and routing mechanisms, and discuss

28

Article

Comprehensive Review of Artificial General Intelligence AGI, Agentic AI and GenAI: Current Trends and Future Directions

International Journal of Multidisciplinary Research and Growth Evaluation 6 (3) , pp.681-688

This paper presents a comprehensive review of Artificial General Intelligence (AGI) and Agentic AI, examining their technological foundations, current capabilities, and future trajectories. The study identifies key technical distinctions between these AI paradigms, including their architectural

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29

Article

Implementing Gen AI for Increasing Robustness of US Financial and Regulatory System

International Journal of Innovative Research in Engineering & Management 11 (6) , pp.175-179

With Gen AI models becoming more evolved, their application in enhancing the robustness of the US Financial System is more viable. Financial risk modeling can take advantage of these development and aid regulatory framework by integrating these novel technologies to make their models more robust.