iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 13 **Issue:** IX **Month of publication:** September 2025

DOI: https://doi.org/10.22214/ijraset.2025.74271

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue IX Sep 2025- Available at www.ijraset.com

Advancing and Transforming Finance through Artificial Intelligence: Development and Applications

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Abstract: ***The integration of Artificial Intelligence (AI) in finance has transformed the sector, offering innovative solutions across risk management, algorithmic trading, credit scoring, fraud detection, and customer service. This review synthesizes the findings of thirty research papers to provide a comprehensive overview of AI applications and advancements in the financial industry. We explore various AI methodologies, including machine learning, deep learning, and natural language processing, and their specific roles in enhancing the financial decision-making process. This study discusses how AI models have improved predictive accuracy, optimized trading strategies, and enhanced customer experiences by automating tasks traditionally performed by human analysts. Furthermore, this review highlights the challenges and ethical considerations surrounding AI adoption in finance, such as data privacy, algorithmic bias, and regulatory compliance. Despite these challenges, the growing potential of AI to revolutionize financial services is evident, with applications continually evolving to address the industry's dynamic needs. This study aims to provide a foundational understanding of AI's impact of AI on finance, offering insights into its current state and future trends.***

Keywords: Artificial Intelligence, Risk Management, credit scoring, trading, predictive analysis, Finance

I. INTRODUCTION

The rapid advancement of Artificial Intelligence (AI) has ushered in a new era in the financial services industry. Over the past few decades, AI has revolutionized finance by enabling more efficient and data-driven decision-making across various domains. From algorithmic trading to risk management, credit scoring, fraud detection, and customer service, AI applications are now deeply embedded within financial institutions.

The integration of machine learning (ML), deep learning (DL), and natural language processing (NLP) techniques has enhanced operational efficiency and paved the way for more personalized financial services and products. This transformation is supported by the growing availability of big data and improved computational power, which have facilitated the development of advanced AI models that can analyse vast amounts of structured and unstructured data.

In particular, AI-driven models have shown promise in solving complex financial problems, such as predicting stock market trends, assessing credit risk, detecting fraudulent transactions, and optimizing investment strategies. Research studies highlight that AI's ability to process and analyze large datasets more accurately and quickly than traditional methods has led to better decision-making and improved financial outcomes.

Moreover, AI technologies enable the automation of repetitive tasks, allowing financial institutions to allocate resources more effectively and to reduce operational costs. With these benefits, the adoption of AI is rapidly expanding, and financial institutions are increasingly investing in AI tools to maintain a competitive edge in the market.

Despite the significant advantages of AI, its implementation in finance is not without its challenges. Concerns regarding data privacy, transparency, algorithmic bias, and the ethical implications of automated decision-making remain significant obstacles. Additionally, regulatory frameworks are struggling to keep pace with the fast-paced development of AI technologies, raising questions about compliance and the responsible use of AI in finance. This paper reviews and synthesizes insights from thirty research studies to provide a comprehensive overview of AI's current and potential future applications in the financial sector. By examining the trends, opportunities, and challenges highlighted in the literature, this study aims to provide a deeper understanding of how AI is reshaping finance and offer a foundation for future research in this rapidly evolving field.

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ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
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II. LITERATURE REVIEW

1) AI in Finance: A Review

The review in this paper focuses mainly on the roles and research considering both classic and modern AI in finance, which highlights the key areas of algorithmic trading, risk management in finance, services provided to customers, portfolio management, and regulatory compliance. It also emphasizes the transformative impact of the new generation of AI and data science on FinTech and the significance of the history and potential of AI in finance. This paper also reviews about the AI techniques which are useful and crucial for the enhancement and development of various financial blocks [1]

2) A survey of AI in finance

Fintech has rapidly transformed financial services, impacting the consumption and delivery of products. The increased use of AI in quantitative finance for tasks such as return forecasting and risk management, where algorithmic trading vulnerabilities exist. AI also plays a role in improving credit scrolling, expanding access to loans, and credit valuation, including through P2P landing platforms. Financial inclusion is promoted by fintech, which is leveraged by digital banking, particularly in underserved communities. Open banking initiatives drive innovation and customer empowerment by enabling data sharing between banks and fintech companies. Various sectors, including finance, supply chains, and education, are being transformed by AI. Machine learning also enhances asset pricing models and facilitates digital transformation in finance. Fintech mainly drives alternative data and AI, which improve financial services access but also raise concerns about consumer privacy and cybersecurity risks. It also contributes to economic development, which helps optimize supply chains, promote accountability in governance, and ensure sustainable development. Hence AI reshapes the higher education.[2]

3) Artificial intelligence in financial services

Benefits such as reduced costs, improved customer satisfaction, and increased efficiency are offered by the rapid transformation of AI in financial services through automation and analytical capabilities. There are many applications been applied in chatbots, personalized services in order to prevent fraud and credit scrolling. AI is further exposed by central banks for supervision and forecasting. Though there are a lot of limitation with includes potential bias in result, difficulty in interpreting algorithms, risks related to market concentration and systemic vulnerabilities, authorities must carefully manage these risks while encouraging innovation.[3]

4) Governance of Artificial Intelligence in Finance

This discussion document, building on previous work by the ACPR on AI in finance, focuses on the evaluation and governance of AI algorithms, particularly Machine Learning (ML). Evaluation criteria include appropriate data management (considering ethical implications like fairness and bias), performance (using various metrics, balancing accuracy with explainability), stability (robustness and generalizability, with ongoing monitoring for model drift), and explainability (tailored to different audiences – customers, internal users, regulators – with four levels: observation, justification, approximation, and replicate Governance aspects cover integration into business processes (considering criticality and compliance risk, along with a well-defined ML lifecycle), human/algorithm interactions (requiring specific explainability and addressing risks associated with human intervention), security and outsourcing (including new attack vectors and third-party risks), initial validation (potentially requiring updates to existing frameworks), continuous validation (monitoring for adherence to evaluation principles), and audit (using a dual analytical and empirical approach, combining code and data analysis with explanation methods and black-box testing techniques like challenger models and benchmarking datasets). The ACPR is seeking public consultation on these guidelines to gather feedback from various stakeholders and refine its approach to AI supervision in the financial sector.[4]

5) Role and challenges of ChatGPT and similar generative artificial intelligence in finance and accounting

Generative AI, such as ChatGPT, is revolutionizing finance and accounting by automating tasks, enhancing customer service, and providing data-driven insights. In finance, it streamlines customer interactions, aids in investment strategies, and improves risk management. In accounting, it automates data entry and report generation and ensures regulatory compliance. However, challenges remain. Ethical concerns regarding data privacy, security, and algorithmic biases must be addressed. Compliance with regulations and the maintenance of data integrity are crucial. Balancing human expertise with AI-driven decisions and upskilling the workforce are also necessary steps. While AI offers immense potential for efficiency and accuracy, responsible implementation, ethical guidelines, and continuous learning are essential for its successful integration and long-term benefits in these sectors.[5]

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6) Artificial intelligence techniques in finance and financial markets: A survey of the literature

AI's increasing presence of AI in finance and financial markets is driven by advancements in computing power and the need for improved efficiency and risk mitigation, especially after the financial crisis and pandemic. While AI offers potential benefits, such as enhanced data analysis, new services, and better risk management, it also raises concerns about its impact on sustainable growth and economic welfare. The literature on AI in finance has evolved alongside AI technology, moving from early computational applications to more complex machine learning and agent-based modelling. Despite the current enthusiasm and high returns on AI-related stocks, questions remain regarding AI's limitations, its ability to replicate human intelligence, and its potential societal impacts, including job displacement and ethical considerations. The integration of AI in finance has been explored across various applications, including algorithmic trading, risk management, customer service, and regulatory compliance. The ongoing challenge is to balance the potential benefits of AI with the need to address its limitations and potential negative consequences.[6]

7) Opportunities and Challenges of Generative-AI in Finance

Generative AI (Gen-AI) is revolutionizing the finance industry by improving language understanding, data processing, and task automation. It enables applications such as AI-powered financial assistants for personal finance management, advanced trading tools that analyse market sentiment and predict trends, and efficient summarization of complex financial documents. Gen-AI also enhances risk monitoring by improving fraud detection and financial risk prediction through the analysis of diverse data sources. Fine-tuning techniques, including instruction fine-tuning, task-specific fine-tuning, and parameter-efficient fine-tuning, enable customization for specific financial tasks to improve performance. Agentic systems extend Gen AI capabilities by integrating external tools, such as search engines and calculators. Quantization methods optimize the model performance by reducing the computational costs. Despite its potential, Gen-AI adoption in finance faces challenges such as data scarcity due to privacy concerns, computational costs, and the need for robust models that avoid hallucinations. This overview highlights the transformative potential of Gen-AI in finance while acknowledging the hurdles that need to be addressed for its successful implementation.[7]

8) Access to Finance for Artificial Intelligence Regulation in the Financial Services Industry

This study explores the critical intersection of artificial intelligence (AI) and finance, focusing on the need for effective regulation in the financial services industry. It examines the increasing use of AI, particularly generative AI, in various financial applications, highlighting the opportunities and risks involved. This study emphasizes the importance of balancing innovation with consumer protection and financial stability. It discusses key regulatory challenges, including data privacy, algorithmic bias, transparency, and accountability issues. This study also analyses existing regulatory frameworks and proposes potential strategies for addressing the unique challenges posed by AI in finance. Ultimately, it advocates for a comprehensive and adaptive regulatory approach that fosters responsible AI adoption while mitigating potential risks in the financial sector.[8]

9) How AI Changes the Game in Finance Business Models

This study examines how Artificial Intelligence (AI) is fundamentally reshaping business models in the financial industry. It explores how AI-driven automation, personalized services, and predictive analytics are transforming traditional financial operations. This paper analyses the impact of AI on various financial services, including banking, investment management, insurance, and lending. It discusses how AI enables new revenue streams, cost reduction, and improved customer experiences. This research also highlights the challenges associated with AI adoption, such as data security, ethical considerations, and the need for a skilled workforce. Ultimately, the paper argues that AI is not just a technological advancement but a catalyst for business model innovation, requiring financial institutions to adapt and embrace AI to remain competitive.[9]

10) Industry 4.0 in Finance: The Impact of Artificial Intelligence (AI) on Digital Financial Inclusion

This study delves into the transformative role of Artificial Intelligence (AI) in Industry 4.0 and its impact on digital financial inclusion. It explores how AI-powered solutions are revolutionizing access to financial services, particularly for underserved populations in India. This study analyses how AI algorithms can enhance credit scoring, personalize financial products, and streamline customer service through chatbots and virtual assistants. It also examines the potential of AI to reduce costs and improve efficiency in financial service delivery, making it more accessible to those who were previously excluded. While acknowledging the challenges related to data privacy, algorithmic bias, and the digital divide, the paper emphasizes the significant potential of AI to foster greater financial inclusion and drive economic growth.[10]

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11) Understanding how automation and machine learning is transforming the financial industry.

This study explores the transformative impact of automation and machine learning (ML) on the financial industry. It analyses how these technologies are reshaping various financial processes, from routine tasks to complex decision making. This study examines the application of automation in areas such as customer service, back-office operations, and regulatory compliance, highlighting its potential for increased efficiency and cost reduction. It further investigates the role of ML in fraud detection, risk management, algorithmic trading, and personalized financial advice, emphasizing its ability to improve accuracy and generate valuable insights from large datasets. This paper also discusses the challenges associated with widespread adoption, including job displacement, ethical considerations, and the need for robust data governance. Ultimately, it argues that understanding and strategically implementing automation and ML are crucial for financial institutions to thrive in the evolving landscape.[11]

12) AI ethics and systemic risks in finance

This study examines the critical intersection of AI ethics and systemic risks in the financial sector. It explores how the increasing use of AI in financial decision-making raises significant ethical concerns, including bias, fairness, transparency, and accountability issues. This paper analyses how these ethical issues can contribute to systemic risks, potentially amplifying existing inequalities and destabilizing the financial system. It discusses the challenges of ensuring algorithmic fairness and transparency, particularly in complex AI models. This study also investigates the potential for AI to exacerbate concentration risk and create new forms of financial exclusion. Ultimately, the paper advocates for a proactive approach to AI ethics in finance, emphasizing the need for robust governance frameworks, regulatory oversight, and industry best practices to mitigate systemic risks and ensure responsible AI adoption.[12]

13) Machine Learning in Economics and Finance

This study surveys the burgeoning field of machine learning (ML) applications in economics and finance. It explores how ML techniques are being utilized to address complex problems in these domains, moving beyond the traditional econometric approaches. This study examines the applications of ML in forecasting economic indicators, predicting asset prices, assessing credit risk, detecting fraud, and personalizing financial services. It discusses the advantages of ML, such as its ability to handle high-dimensional data and uncover nonlinear relationships. This study also acknowledges the challenges, including interpretability, data requirements, and potential biases. Ultimately, it highlights transformative potential of ML to enhance economic modelling, improve financial decision-making, and drive innovation in the financial industry.[13]

14) How Do Financial Executives Respond to the Use of Artificial Intelligence in Financial Reporting and Auditing?

This study explores how financial executives adapt to the rise of Artificial Intelligence (AI) in financial reporting and auditing. It examined their perceptions of AI's potential benefits of AI, such as increased efficiency, accuracy, and real-time insights. This study investigates how executives incorporate AI into their financial processes, including data analysis, risk management, and fraud detection. It also explores the challenges faced by the industry, such as data security, ethical considerations, and the need for skilled personnel. This study highlights the strategies employed by executives to address these challenges, including developing AI governance frameworks, investing in training, and collaborating with auditors to ensure responsible AI implementation. Ultimately, this study provides valuable insights into how financial executives are navigating the evolving landscape of AI in financial reporting and auditing.[14]

15) In What Ways Can AI Enhance Financial Literacy and Money Management

This study investigates how Artificial Intelligence (AI) can revolutionize financial literacy and money management. It explores AI's potential of AI to personalize financial education through adaptive learning platforms and chatbots, tailoring content to individual needs and preferences. This study examines AI-powered tools that can simplify complex financial concepts, making them more accessible to a wider audience. It also discusses AI's role of AI in providing personalized financial advice, budgeting assistance, and investment recommendations based on individual risk profiles and financial goals. The research acknowledges the potential for AI to bridge the financial literacy gap, particularly for underserved populations, but also highlights the importance of addressing ethical considerations, data privacy, and the need for human oversight to ensure responsible AI implementation in financial education.[15]

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16) The role of artificial intelligence in sustainable finance

This study explores the burgeoning role of Artificial Intelligence (AI) in advancing sustainable finance. It examines how AI can contribute to Environmental, Social, and Governance (ESG) integration by improving data analysis, risk assessment, and investment decision-making. This paper discusses AI's potential to enhance ESG data collection and reporting, identify green investment opportunities, and monitor sustainability performance. It also investigates how AI can help mitigate climate-related financial risks and promote responsible corporate behaviour. While acknowledging the challenges related to data quality, algorithmic bias, and the need for standardized ESG metrics, this study emphasizes AI's significant potential to accelerate the transition to a more sustainable financial system. It advocates for responsible AI development and deployment to maximize its positive impact on sustainability goals.[16]

17) Effects of artificial intelligence on financial reporting accuracy

This study investigates the effect of Artificial Intelligence (AI) on financial reporting accuracy. It explores how AI-powered tools can automate data processing, identify anomalies, and reduce human errors in financial reporting processes. This study examines the potential of AI to improve the timeliness and reliability of financial information. It also considers the challenges associated with AI adoption, such as data quality issues, algorithmic bias, and the need for robust internal control. This study analyses the impact of AI on various aspects of financial reporting, including revenue recognition, expense management, and asset valuation. Ultimately, the paper aims to assess whether and how AI contributes to enhanced financial reporting accuracy, providing insights for companies and regulators seeking to leverage AI in this domain.[17]

18) Empowering Sustainable Finance: The Convergence of AI, Blockchain, and Big Data Analytics

This study explores the synergistic potential of Artificial Intelligence (AI), blockchain, and big data analytics in empowering sustainable finance. It examines how these technologies can converge to address challenges in Environmental, Social, and Governance (ESG) data management, transparency, and impact measurement. This study investigates how AI can analyse vast datasets to identify sustainability risks and opportunities, while blockchain can enhance the traceability and trust in ESG data. It discusses how big data analytics can provide deeper insights into sustainability performance and facilitate more informed investment decisions in the future. This research highlights the potential of this convergence to drive greater transparency, accountability, and efficiency in sustainable finance, ultimately contributing to a more sustainable global economy. It also acknowledges the challenges associated with data standardization, regulatory frameworks, and ethical considerations.[18]

19) Leveraging Generative Artificial Intelligence for Financial Market Trading Data Management and Prediction

This study explores the application of generative AI in financial market trading, focusing on data management and prediction. This study investigates how generative AI models can be used to augment and enhance financial datasets, addressing issues such as data scarcity and noise. This study examines the potential of these models to generate synthetic financial data for training predictive models and improve their robustness and performance. It also explores how generative AI can be used to identify complex patterns and anomalies in market data, potentially leading to more accurate predictions of price movements in the future. This study discusses the challenges and opportunities associated with the use of generative AI in this context, including model validation, risk management, and ethical considerations. Ultimately, it aims to assess the potential of generative AI to transform financial market trading through improved data management and prediction.[19]

20) Research on the impact of artificial intelligence on financial security in the context of modern technological challenges

This study examines the complex interplay between artificial intelligence (AI) and financial security in the face of modern technological challenges. This study explores how AI can both enhance and threaten financial security. This study analyses AI's potential of AI to improve fraud detection, cybersecurity, and risk management through advanced analytics and automation. Simultaneously, it investigates the emerging threats posed by AI-powered cyberattacks, algorithmic bias in lending and insurance, and the potential for AI to be used in market manipulation. This study discusses the challenges of regulating AI in finance, addressing ethical concerns, and ensuring data privacy. Ultimately, it emphasizes the need for a balanced approach that leverages AI's benefits while mitigating its risks to maintain financial security in the evolving technological landscape.[20]

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21) Driving Efficiency and Risk Management in Finance through AI and RPA

This study explores the transformative impact of combining Artificial Intelligence (AI) and Robotic Process Automation (RPA) to drive efficiency and enhance risk management in the finance industry. It examines how RPA automates repetitive tasks, freeing human resources for more strategic activities. This study investigates how the integration of AI with RPA enables intelligent automation, allowing systems to learn, adapt, and make decisions, further optimizing financial processes. It discusses the application of this combined approach in areas such as accounts payable, reconciliation, regulatory reporting, and fraud detection. This research highlights the potential for significant cost savings, improved accuracy, and reduced operational risks. It also acknowledges the challenges of implementation, including integration complexities, data security concerns, and the need for workforce reskilling. Ultimately, it argues that AI and RPA are crucial for financial institutions seeking to achieve operational excellence and robust risk management in the digital age.[21]

22) Applications of artificial intelligence in business management, ecommerce, and finance

This study explores the diverse applications of Artificial Intelligence (AI) in business management, e-commerce, and finance. It examines how AI is revolutionizing business operations through automation, predictive analytics, and personalized customer experiences. In e-commerce, this study highlights AI's role of AI in recommendation systems, fraud detection, and optimization of supply chain management. Within the financial sector, this research investigates AI's contributions to algorithmic trading, risk assessment, and fraud prevention. This paper emphasizes AI's potential of AI to enhance efficiency, improve decision-making, and drive innovation in these sectors. It also acknowledges the challenges associated with AI adoption, such as data privacy, ethical considerations, and the need for skilled workforce.[22]

23) Artificial Intelligence in Financial Markets: Algorithms and Applications

This study explores the growing influence of Artificial Intelligence (AI) in financial markets, focusing on its algorithms and applications. It examines how AI transforms trading, portfolio management, risk assessment, and fraud detection. This paper discusses various AI techniques employed, including machine learning, deep learning, and natural language processing, highlighting their strengths and limitations. It analyses how algorithmic trading powered by AI enables faster and more efficient execution of trades. This study also investigates AI's role of AI in developing sophisticated risk models and detecting fraudulent activities. While acknowledging the potential benefits, such as increased efficiency and improved decision-making, this study also addresses the challenges, including ethical considerations, regulatory oversight, and the potential for algorithmic bias. Ultimately, it aims to provide a comprehensive overview of AI's current and future impact on financial markets.[23]

24) The AI Revolution in Financial Services: Emerging Methods for Fraud Detection and Prevention

This study examines the transformative impact of AI on fraud detection and prevention in financial services. It explores how AI's advanced capabilities of AI are revolutionizing traditional fraud management methods. This study analyses emerging AI techniques, including machine learning, deep learning, and anomaly detection, and their applications in identifying and preventing various types of financial fraud, such as credit card fraud, insurance fraud, and money laundering. It discusses how AI algorithms can analyse vast datasets in real time to detect suspicious patterns and behaviour's, significantly improving the speed and accuracy of fraud detection. This study also addresses the challenges of AI implementation, including data security, model explainability, and the need for continuous model training and adaptation. Ultimately, it emphasizes AI's crucial role in bolstering financial security and protecting consumers in the face of increasingly sophisticated fraud tactics.[24]

25) AI-powered Fraud Detection in Decentralized Finance: A Project Life Cycle Perspective

This study explores the critical need for robust fraud detection in the rapidly evolving landscape of Decentralized Finance (DeFi). It examines how AI can be leveraged to address the unique challenges of fraud in this sector, considering the entire project's lifecycle. This study analyses the specific types of fraud prevalent in DeFi, such as Ponzi schemes, rug pulls, and fake token offerings, and how they manifest at different stages of a project's development. It then delves into AI-powered techniques that can be employed for detection, including machine learning, deep learning, and anomaly detection. This study emphasizes the importance of a lifecycle perspective, as different fraud types require different detection methods at various stages. Ultimately, the paper aims to provide a comprehensive framework for developing and implementing AI-driven fraud detection systems in DeFi, contributing to a more secure and trustworthy decentralized financial ecosystem.[25]

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26) Does Artificial Intelligence (AI) enhance green economy efficiency? "The role of green finance, trade openness, and R&D investment"

This research paper investigates the impact of Artificial Intelligence (AI) on green economy efficiency, considering the roles of green finance, trade openness, and R&D investment. It explores whether AI adoption contributes to improved environmental performance, measured through indicators like reduced emissions and resource consumption. The study examines how green finance initiatives, trade liberalization, and investments in research and development interact with AI to influence green economy outcomes. It analyzes whether these factors amplify or hinder the positive effects of AI on environmental efficiency. The research aims to understand the complex interplay between AI, financial mechanisms, trade policies, and technological progress in achieving a more sustainable and environmentally friendly economy. Ultimately, it seeks to identify policy recommendations that maximize the benefits of AI for green economic growth.[26]

27) How-to Navigate Financial Decisions with AI and the Money Cycle Theory?

This research explores how Artificial Intelligence (AI) can improve financial decision-making within the framework of the Money Cycle Theory. It examines how AI can personalize financial advice, automate budgeting, and optimize investments across the different stages of the money cycle (earning, saving, spending, investing, and giving). The paper investigates AI-driven tools that can enhance financial literacy and empower individuals to make informed decisions. It also addresses the ethical considerations and potential biases associated with AI in finance, emphasizing the need for responsible AI implementation to ensure equitable and effective financial management.[27]

28) Sustainable Supply Chain Finance and Supply Networks: The Role of Artificial Intelligence

This research explores the intersection of sustainable supply chain finance (SSCF), supply networks, and Artificial Intelligence (AI). It investigates how AI can enhance SSCF by improving risk assessment, optimizing financing decisions, and promoting transparency within complex supply networks. The paper examines AI's potential to analyze vast datasets, identify sustainability risks, and facilitate the integration of ESG (Environmental, Social, and Governance) factors into financial flows. It aims to understand how AI can drive both financial performance and sustainability outcomes in supply chains.[28]

29) Is Artificial Intelligence Ready to Assess an Enterprise's Financial Security?

This research investigates the readiness of Artificial Intelligence (AI) to assess a company's financial security. It explores AI's potential to analyze financial data, identify vulnerabilities, and predict financial distress. The paper examines the capabilities of AI in areas like fraud detection, risk management, and regulatory compliance. It also considers the limitations and challenges, including data quality, model interpretability, and ethical considerations. The research aims to determine whether AI can provide a reliable and comprehensive assessment of an enterprise's financial security, and what further developments are needed.[29]

30) Artificial Intelligence for the Financial Services Industry: What Challenges Organizations to Succeed

This research paper examines the challenges organizations face when implementing Artificial Intelligence (AI) in the financial services industry. It explores the complexities of integrating AI into existing systems, highlighting the need for robust data infrastructure and data governance frameworks. The paper analyzes the skills gap and the importance of attracting and retaining AI talent. It discusses the ethical considerations surrounding AI adoption, including bias, fairness, transparency, and accountability. The research also investigates the regulatory landscape and the need for compliance with evolving AI regulations. Furthermore, it examines the organizational culture shifts required to embrace AI, emphasizing the importance of leadership buy-in and employee training. Ultimately, the paper aims to provide insights into the key challenges organizations must overcome to successfully leverage AI in financial services.[30]

III. COMPARISON OF PAST PUBLISHED RESEARCH WORK

This review, undertaken during the period 2024–2025, offers critical insights into the transformative role of artificial intelligence in enhancing financial practices. While the application of various AI tools has demonstrated significant improvements, certain limitations and challenges have been noted across the surveyed literature. A comparative synthesis of these findings is presented in this table.

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Table 1. Comparison Table of Past Published Research Work

S. No	Title	Authors	Year	Objective	Outcomes
1.	AI ethics and systemic risks in finance	Ekaterina Sveplova	2025	To analyze AI ethics and systemic risks in finance, addressing biases, transparency, accountability, regulatory challenges, and risk mitigation strategies.	Enhanced understanding of AI ethics, systemic risks, regulatory challenges, bias mitigation, transparency, accountability, and sustainable AI deployment in finance.
2.	Machine Learning in Economics and Finance	Periklis Gogas, Theophilos Papadimitriou	2025	To explore machine learning applications in economics and finance, focusing on predictive analytics, risk management, algorithmic trading, and decision-making improvements.	Improved financial predictions, risk assessment, trading strategies, economic modeling, decision-making, fraud detection, and regulatory compliance using machine learning techniques.
3.	Effects of artificial intelligence on financial reporting accuracy	Chibulo Foster Mwachikoka		To assess the impact of artificial intelligence on improving financial reporting accuracy, efficiency, and decision-making in organizations.	AI enhances financial reporting accuracy by automating processes, reducing errors, improving data analysis, and increasing decision-making efficiency.
4.	Artificial Intelligence in Financial Markets: Algorithms and Applications	Sai Teja Boppiniti	2025	To analyze AI algorithms in financial markets, focusing on trading strategies, risk management, fraud detection, market prediction, and decision-making improvements.	Enhanced trading strategies, risk management, market prediction, fraud detection, algorithmic efficiency, decision-making, regulatory compliance, and AI-driven financial innovations.
5.	"Is Artificial Intelligence Ready to Assess an Enterprise's Financial Security?" ("Melnichenko, O. (2020) Is Artificial Intelligence Ready to Assess an ...") ("JRFM | Free Full-Text | Is Artificial Intelligence Ready to Assess an ...")	Oleksandr Melnychenko		To evaluate the capability of artificial intelligence in assessing and enhancing an enterprise's financial security and risk management practices.	AI improves financial security assessments by analyzing risks, detecting anomalies, and enhancing decision-making, though challenges in full implementation remain.

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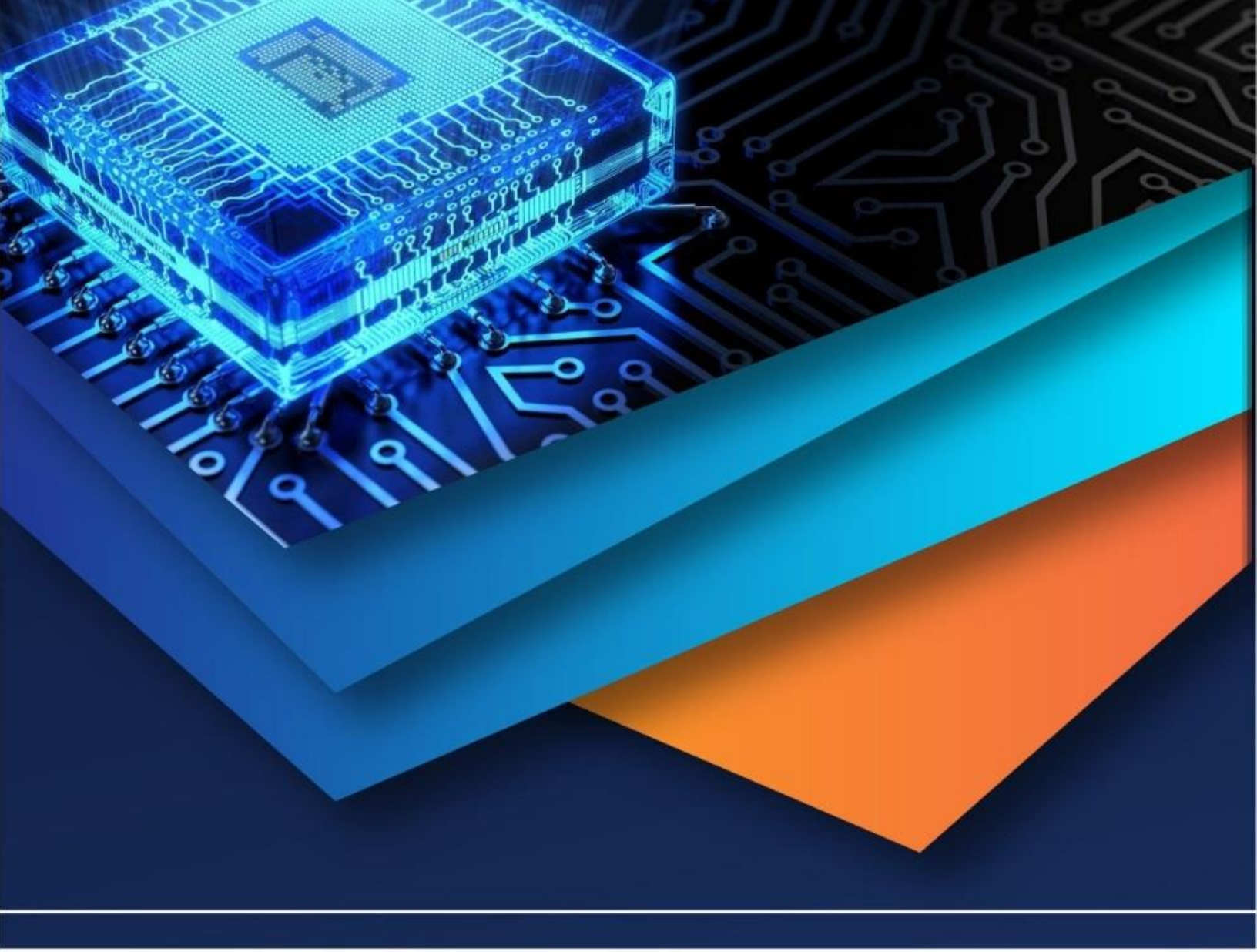
IV. CONCLUSION

In conclusion, AI in finance is rapidly transforming the industry by enhancing decision-making, optimizing operations, and improving customer experiences. The integration of machine learning, natural language processing, and data analytics has revolutionized areas such as risk assessment, fraud detection, and algorithmic trading. Despite challenges like data privacy and ethical concerns, AI's potential to drive innovation and efficiency in finance remains significant, paving the way for a more advanced, data-driven financial ecosystem in the future.

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