APPLICATION OF ARTIFICIAL INTELLIGENCE IN FINANCE

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Abstract

Artificial intelligence (AI) in finance helps drive insights for data analytics, performance measurement, predictions and forecasting, real-time calculations, customer servicing, intelligent data retrieval, and more. It is a set of technologies that enables financial services organizations to better understand markets and customers, analyze and learn from digital journeys, and engage in a way that mimics human intelligence and interactions at scale. AI in finance can help in five general areas: personalize services and products, create opportunities, manage risk and fraud, enable transparency and compliance, and automate operations and reduce costs and applying an AI layer, and leveraging human engagement in a seamless way, financial institutions can create experiences that address the unique needs of their customers while scaling efficiently.

Key Words : artificial intelligence, data analytics, forecasting, technologies, customer service

Introduction

The term "Artificial Intelligence" was first coined by John Mc Carthy in 1956. Artificial Intelligence is a major innovation in technology that includes machine learning and algorithm language. AI is an area of computer science and science is inventing an intelligence that comes from machines to make flawless decisions. Progress in AI relies on these powerful algorithms and access to data. The computing power of all these algorithms is what drives artificial intelligence. Data processing is almost instantaneous, which multiplies the number of ways in which artificial intelligence can be used. Reinforcement learning is limitless, each new piece of information reinforces the accuracy of AI. The more artificial intelligence is powered by new data, the more artificial neural network dedicated to deep learning expands. Artificial Intelligence learns and understands, which also has a technical impact. AI is the intelligence of machines or software, as opposed to the intelligence of living beings, mainly of humans. AI technology is widely used throughout industry, Government and science. Artificial intelligence was founded as an academic discipline. The field went through multiple cycles of optimism, followed by periods of disappointments and loss of funding. The growing use of artificial intelligence in 21st century is influencing a societal and economic shift towards increased automation, data-driven decision making and the integration of AI systems into the various economic sectors and areas of life, impacting job markets, healthcare, industry, government and education. The aim of the artificial intelligence is to give machines and computers the ability to learn, solve problems, make decisions and perform task that would normally require human intelligence.

Artificial intelligence is already being used in many areas of our daily lives. While Artificial Intelligence systems can already perform impressively, they are currently still limited in their ability to mimic human intelligence in all aspects and face challenges such as ethics, privacy and security. AI systems do not have a comprehensive general intelligence like the human mind. The transfer of human ethical principles to AI system is an important research question. The development of AI is progressing at a rapid pace. The adoption of AI is likely to have remarkable implications for the subjects adopting them and specially for the economy and the society. Artificial Intelligence

is mostly affecting labor market. The demand for high - skilled employees is expected to increase, whilst the demand for low - skilled jobs is likely to shrink because of automation.

Research methodology

The study is based on conceptual research. Data has been reviewed from secondary sources such as books, research papers, newspaper articles, reports and internet.

Literature Review

AI solutions have been introduced in every major sector of the economy. A sector that is witnessing a profound transformation led by the ongoing technological revolution is the financial one. AI also foster business model innovation and radically changes customer relationships by promoting customized digital finance, which together with the automation of processes, results in better service efficiency and cost saving. Intelligence devices in finance are used in a number of areas and activities, including fraud detection, algorithmic trading and high frequency trading, portfolio management, credit decisions based on credit scoring or credit approval models, bankruptcy predictions, risk management, behavioral analysis through sentiment analysis and regulatory compliance. Adoption of artificial intelligence technologies, in a broad range of financial applications has received increasing attention and has significantly expanded its application to stock market, trading models, volatility forecasting, portfolio management, performance, risk and default evaluation, crypto currencies, derivatives, credit risks in banks, investor sentiment analysis and foreign exchange management, respectively. Looking at financial and investment decisions at banks and companies, areas can be identified where AI can support and improve the quality of decision making but all AI must be used responsibly and human oversight and expertise must be maintained to minimize potential risks.

Many authors employ Artificial Intelligence as a predictive instrument for forecasting stock prices, performance and volatility. Artificial Intelligence is also used in classification of problems and warning systems to detect credit risk and frauds, as well as to monitor the performance of firms and banks. The former use of AI permits to classify firms into two categories depending upon the nature of data, whether quantitative or qualitative. For example, we may have data of distressed or non-distressed, variable -non variable, bankrupt- non bankrupt or financially healthy - not healthy, good -bad, fraud- not fraud and many more. Warning systems also follow the same principle: after analyzing customers financial behavior and finding potential fraud issues in bank accounts, alerts models signal to the bank unusual transactions. Artificial intelligence is a safeguard to reduce financial risks. Role of artificial intelligence in helping the credit decisions allows borrowers to make smarter decisions for proper utilization of credit funds and help the banking industries to sort out problems, helps to make Indian financial system and their operational activities smarter. It boosts analytical capacity, differentiate between traditional and modern financial approach in order to inculcate knowledge by machines. AI is also used or applied to some highly essential tasks such as asset management, underwriting relationship manager argument task and insurance practices support. Artificial Intelligence in the financial industry is rapidly increasing and helping to perform several financial services very smoothly, like task automation, personal financial planning, managing credit and detection of errors and frauds, bank financing, crypto currency, financial advising, smart contracts, mobile payments, crowdfunding, algorithmic trading services and also creating financial ecosystem by machine performing the task etc.

Uses of AI in the field of finance

- A computer system has been trained to forecast when to trade shares to maximize the returns and to reduce the losses during uncertainties and help investors, institutions, companies to take quick decisions.

- Many organizations are trying to implement the Artificial Intelligence to enhance the security in online transaction and related services.

- In the field of loan, health, mortgage or Life insurance, AI can help handle every risk and fits perfectly with the underwriting tasks that are common in finance and insurance.

- AI shows its significance in finance domain people by predictive marketing analytics based on past behavior.

- In process of credit card and loan decisions, AI automatically assessing the profile which reduces the cost and efforts, making the whole process fair and transparent.

Conclusion

Artificial intelligence has revolutionized the entire financial system. AI is regarded as an excellent market predictor and contributes to market stability by minimizing information asymmetry and volatility, this results in profitable investing systems and evaluate performances very accurately. It means that global financial crisis or unexpected financial turmoil will be likely to be anticipated and prevented. There is strong possibility that Artificial Intelligence will reduce the human needs, so we will have to maintain balance by updating ourselves according to the changes, and AI can be a real game changer in boosting the efficiency and accuracy of the financial services sector. Applying an AI layer, and leveraging human engagement in a seamless way, financial institutions can create experiences that address the unique needs of their customers while scaling efficiently.

Limitations and suggestions

There are some limitations of this study, as it includes significant range of inter related topics and then present a concise description for them. The study is only based on Artificial Intelligence in the field of finance sector. There are many more applications of Artificial Intelligence such as Automobile, healthcare, gaming, robotics, surveillance, entertainment, space explorations, agriculture, E -commerce, social media on which further study can be conducted. Also, we all know that technological changes are taking place at very fast pace, AI experts, policy makers and growing number of scholars have been debating about the potential and risk of AI related device such as Chat GPT, Meta verse etc. Therefore, future contributions may advance our understanding of implications of these latest developments for finance and other important fields like education and health.

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