IJARCCE ISSN (O) 2278-1021, ISSN (P) 2319-5940

International Journal of Advanced Research in Computer and Communication Engineering

Impact Factor 8.102 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 13, Issue 7, July 2024

DOI: 10.17148/IJARCCE.2024.13726

A SURVEY ON ARTIFICIAL INTELLIGENCE IN REAL WORLD

Anvitha S Badiger[1], S Karuna[2], Shreya S Jain[3], Srushtitha S[4], Poornima HN[5]

Artificial Intelligence and Machine Learning, K S Institute of Technology, Bangalore, India[1-5]

Abstract: Artificial intelligence (AI) is transforming a number of industries, including business, healthcare, robotics, and the arts. Artificial Intelligence (AI) in robotics improves automation and precision, enabling safer and more effective manufacturing and logistics operations. AI helps the healthcare industry by enhancing patient outcomes and accessibility through telemedicine, personalised treatments, and enhanced diagnostics. AI produces creative works in the art world that subvert conventional ideas of authorship and creativity. Companies use AI to improve operational efficiency, data-driven insights, and personalised marketing. AI has the potential to revolutionise society, but it also presents ethical issues that need to be carefully managed. These issues include algorithmic prejudice, data privacy, and employment displacement.

Keywords: Artificial Intelligence (AI), Robotics, Healthcare, Art, Business, Automation, Diagnostics, Personalised medicine, Creative AI, Data-driven insights, Ethical consideration, Algorithmic bias.

I. INTRODUCTION

The simulation of human intelligence in robots that are designed to think and learn like humans is known as artificial intelligence, or AI. It includes a range of technologies, including deep learning and machine learning, that allow computers to carry out operations like speech recognition, visual perception, decision-making, and language translation that would normally need human intellect. AI has completely changed a range of industries, including healthcare and finance, by increasing productivity, automating tasks, and spurring creativity in previously unthinkable ways.

1.Healthcare:

Healthcare has undergone a transformation thanks to artificial intelligence (AI), which improves medical practices' efficiency and provides answers to complicated problems. Through sophisticated data analysis and predictive modelling, artificial intelligence (AI) supports early disease detection, precise diagnosis, and customised treatment regimens in real-world applications. For example, AI systems can, frequently more accurately than traditional approaches, analyse enormous volumes of medical data to find patterns and abnormalities that may be suggestive of disorders like cancer or cardiovascular ailments. AI-powered solutions also simplify administrative work, lower operating expenses, and enhance patient outcomes by facilitating quicker and more accurate interventions.

2.Robotics

Robotics has been greatly impacted by artificial intelligence (AI), which offers cutting-edge solutions to practical problems. AI makes it possible for robots to learn from data, adapt to their surroundings, and make decisions on their own. This allows for a variety of applications, from manufacturing to healthcare. AI-driven robots improve production lines, increase accuracy, and minimise the need for human intervention in dangerous activities in industrial settings. AI-driven robots are used in healthcare to help with surgery, take care of patients, and support rehabilitation.

3.Buisness

Artificial Intelligence (AI) has changed the corporate landscape in many ways as it has quickly progressed from a theoretical concept to a useful tool. Businesses may improve decision-making processes, automate repetitive jobs, and analyse massive volumes of data to obtain useful insights by utilising AI technologies. For example, AI-powered solutions in the retail industry can personalise customer experiences, optimise supply chains, and forecast consumer behaviour, all of which enhance sales and customer loyalty. AI is used by financial organisations to detect fraud and manage risk, which lowers operating costs and lowers risk.

4.Entertainment

Recommendation systems, audience engagement, and content development are all being revolutionised by artificial intelligence (AI), which is changing the entertainment sector.

International Journal of Advanced Research in Computer and Communication Engineering
Impact Factor 8.102 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 13, Issue 7, July 2024
DOI: 10.17148/IJARCCE.2024.13726

Large volumes of data are analysed by AI algorithms to personalise content, making recommendations for games, movies, and music based on user tastes. Artificial Intelligence (AI) boosts productivity and creativity in film and video production by helping with editing, special effects, and even scriptwriting. Furthermore, immersive and interactive entertainment is being created by AI-powered chatbots and virtual reality experiences, providing audiences with previously unheard-of opportunities to connect with their favourite media.

II. LITERATURE REVIEW

SL NO	YEAR OF PUBLICATION	PROJECT TITLE	DESCRIPTION
1.	2024	Legal Implications of AI in Healthcare	Artificial intelligence (AI) has been increasingly popular worldwide in recent years, having a big impact on the healthcare industry. Some people consider AI to be a revolutionary technology. While artificial intelligence (AI) has been used in healthcare for a long time, new consumer-focused generative AI tools have reignited interest in the field. Interest in this spotlight has been expressed by stakeholders, including governments, businesses, and consumers. Stakeholders such as health insurance companies, physician groups, and healthcare systems are eager to investigate how artificial intelligence (AI) might improve many aspects of healthcare. But with this excitement come new legal concerns and difficulties. This talk looks at recent changes to the legal and regulatory landscape in the United States and other countries that affect the healthcare industry. It emphasises data privacy issues and worries about discrimination in relation to AI-powered solutions. It also covers topics that medical professionals and healthcare systems are keeping a careful eye on, like the possibility of AI-related medical blunders, liability issues, and changes in malpractice insurance trends.
2.	2023	Business Modelling Innovation Using Artificial Intelligence Technology	The number of startups using artificial intelligence (AI) into their business plans is growing quickly. While the use of AI in business is not new, current studies show that innovative or different business models are being used. This begs the question of whether these AI business models are any different from conventional IT business models. By contrasting the business models of AI companies with those of traditional IT companies, this study seeks to shed light on these distinctions. A taxonomy of business models for AI companies is developed using a sample of 162 global startups, resulting in the identification of four archetypal business models: Deep Technology Researcher, Data Analytics Supplier, AI Product and Service Provider, and Facilitator of AI Development. Three primary components of startup business models for AI companies are covered in the paper.
3.	2023	Exploring the Intersection of AI Art and Film: A Case Study of Giant	Although text-to-image models are a stochastic machine learning process that need human participation to better support production, artificial intelligence (AI) has lately been employed as a tool for many visual storytelling applications.

DOI: 10.17148/IJARCCE.2024.13726

			Pre-visualization, as it is commonly known, is a crucial phase of the filmmaking process that involves the artists' subjective decisions. This work explores the use of AI to create mood boards from text to help filmmakers with pre-production. To provide visual previews of film projects, we offer a revolutionary preproduction pipeline and guidelines that make use of text-to-image models. To verify and assess the efficacy of our method, we also carry out a case study. Our case study indicates that directors can create mood boards that successfully communicate the intended ambiance of their films by adhering to the standards we've created.
4.	2022	Artificial Intelligence in Business: A Literature Review and Research Agenda	The information systems (IS) field now has exciting research opportunities thanks to the development of artificial intelligence (AI) technology. This study uses latent semantic analysis to look at how important themes in practitioner and academic discourses on AI correlate with one another. The results indicate that while practitioner interest has been more varied, academic research in business has primarily concentrated on developing and implementing early AI technologies. The study links the body of extant AI literature to fundamental IS research topics by analysing these disparities within the framework of the socio-technical continuum. By doing this, it highlights knowledge gaps and suggests avenues for further investigation for IS researchers, with a particular emphasis on AI and markets, AI and organisations, AI and groups, AI and individuals, and AI development.
5.	2021	Entertainment in Era of AI, Big Data & IoT	The entertainment industry is evolving due to the convergence of devices, networks, and platforms. This chapter looks at how manufacturing, development, and consumption of commodities are changing as a result of artificial intelligence. AI improves artistic processes, which makes content creation easier. Production: To identify patterns and trends in customer behaviour, data from IoT sensors is examined using AI and big data analytics. Consumption: VR and AI create immersive experiences by emotionally engaging viewers. Despite its many benefits, big data, artificial intelligence, and the internet of things pose moral, ethical, and legal challenges. There must be restrictions to counteract these impacts. Ensuring the security of data and IoT assets through best practices is crucial for the adoption of these technologies.

DOI: 10.17148/IJARCCE.2024.13726

6.	2021	Artificial intelligence in business: State of the art and future research agenda	This paper offers a summary of the most recent research on artificial intelligence (AI) in the corporate setting and suggests a direction for further investigation. This report examines the historical development of AI research in business by examining 404 pertinent publications gathered from Web of Science and Scopus. It highlights influential works and top publishing sites. Through the application of a Latent Dirichlet Allocation-based text-mining technique, latent subjects were identified and thoroughly examined in the literature. The results show that 18 subjects are grouped into four primary clusters: AI systems, AI techniques, organisational impact of AI, and society impact of AI. Robots and automated systems, the Internet of Things and AI integration, legislation, and ethics are only a few of the major developing themes and issues that the report highlights. Lastly, a suggested research agenda is made to guide future AI research in business addressing the identified trends and challenges.
7.	2021	AI in healthcare: A narrative review	This article provides a narrative overview of healthcare services that incorporate artificial intelligence (AI) into day-to-day operations. It looks at the essential elements required for the effective implementation of AI-based healthcare services. The benefits of AI in this field are evaluated according to how well it can improve healthcare outcomes, assist carers in their responsibilities, and reduce healthcare expenses. The market for healthcare AI is highly promising, with a projected 28% compound annual growth rate worldwide. The results from the healthcare industry's financial, health-improving, and care-outcome perspectives will all be compiled in this assessment, along with important recommendations for the successful application of AI in healthcare.
8.	2021	Applications of artificial intelligence	AI-powered systems that can anticipate, understand, learn, and act are revolutionising and improving contemporary healthcare. These developments are applied to tasks like deciphering novel genetic code links and controlling surgical aid robots. Artificial Intelligence has the capacity to identify minute patterns that humans might overlook. This research looks at and talks about the several modern uses of AI in the medical field. It primarily focuses on three cutting-edge fields: patient care, clinical trials, and AI-driven drug discovery. The results show that AI has provided pharmaceutical businesses with a number of benefits in the healthcare industry, including the automation of target identification and the speeding of their drug discovery processes.
9.	2021	AI and robotics in the European restaurant sector: Assessing potentials for process innovation in a high-	The restaurant sector is seeing a notable shift due to technological breakthroughs, namely in the areas of robots and artificial intelligence (AI). These technological advancements—such as chatbots, smartphone apps, kiosks, and operational robots—are

DOI: 10.17148/IJARCCE.2024.13726

		contact service industry	automating some aspects of restaurant operations and changing the way customers interact with restaurants. Although AI and robotics are still in their early stages of deployment, interest in using them to improve service quality is growing. This study examines the state of robotics and AI in restaurants, with an emphasis on opportunities for process innovation. In order to properly incorporate these technologies into restaurant operations for future developments, a market analysis of the European restaurant industry provides factual data and serves as the foundation for formulating plans.
10.	2020	AI and robotics innovation	This chapter examines the state of AI innovation around the world through an analysis of 155,000 patents pertaining to AI. It charts the rise and development of AI technology, pinpoints worldwide hotspots for AI, and looks at the scope of AI activity in several industries. According to the survey, there has been a noticeable increase in AI patenting since 2013, reaching a high in 2015 and 2016. The majority of patents are focused on software development and the production of electronic equipment, though they are gradually moving into other industries. It demonstrates a recent spike in venture capital investment in AI companies, indicating the dynamic expansion and cross-sector influence of AI technology, and reveals that new and tiny AI firms exhibit above-average economic performance.
11.	2020	Artificial Intelligence in Business: From Research and Innovation to Market Deployment	The argument over whether the current wave of artificial intelligence (AI) breakthroughs is just hype or if it actually bears transformative potential has been spurred in recent years by the expansion of intelligent products and services. This essay examines the wide spectrum of effects AI can have on businesses, governments, communities, and people, looking at both the advantages and disadvantages of the technology. The report explores how artificial intelligence (AI) moves from research and innovation to deployment, showcasing significant academic accomplishments and their implications for global market trends and entrepreneurial activity. This article attempts to analyse two lists of the top 100 AI companies in order to identify the factors influencing the development of AI. The results will improve knowledge of AI advancements and their effects on companies and society, offering perceptions on how AI can completely revolutionise business operations and the global economy.
12.	2020	Efficient Imitation Learning for Game AI	In order to analyse and find bugs in software applications, particularly computer games, automation testing is a crucial method. Using a modest collection of manually recorded game samples, this research suggests an effective imitation method for learning game strategy that can be trained in about one hour. There are four steps that make up this work.

DOI: 10.17148/IJARCCE.2024.13726

			We start by gathering a collection of manually captured data that consists of both user activities and picture frames. Noise in the image is removed by extracting the discriminative region. Next, the issue of action delay is resolved by using data alignment. To minimize bias, data resampling is done since image samples from various classes vary greatly. Lastly, an LSTM-structured lightweight and quick network receives these samples.
13.	2017	Artificial intelligence in healthcare: past, present and future	The field of artificial intelligence (AI), which seeks to mimic human cognitive abilities, is fundamentally changing the healthcare industry. The increasing accessibility of healthcare data and the quick development of analytics are driving this change. We examine the situation of artificial intelligence in healthcare now and its potential future. AI is capable of processing both organised and unstructured healthcare data. Neural networks, deep learning, and other machine learning techniques are examples of common AI methodology for structured data. For unstructured data, natural language processing is used. This paper is published under the Creative Commons Attribution Non-Commercial (CC BY-NC 4.0) licence and is accessible as an Open Access publication. As long as the original work is correctly attributed, this allows others to share, remix, adapt, and build upon the work for non-commercial purposes. Different licence terms may apply to derivative works as long as the use is kept non-commercial.
14.	2017	Towards a science of integrated AI and Robotics	AI's original goal was integrated intelligence, which combined observation, reasoning, and action. However, as time went on, robotics and AI became more and more different from each other, with robotics concentrating on sensory-motor tasks and AI on abstract issues and algorithms. Now that both sectors are developing and interest in autonomous systems is rising, this gap is starting to close. This special issue highlights important areas of progress in the evolution of machine intelligence while examining recent developments in the combined fields of robotics and artificial intelligence.
15.	2022	Voice - Driven Panoramic Imagery: Real-Time Generative AI for Immersive Experiences	This study presents a novel system that, in response to oral commands, generates 360-degree panoramic photos in real-time using strong Generative AI and Natural Language Processing (NLP) models. The technology's main goal is to translate spoken descriptions into visually captivating first-person virtual reality scenarios so that users can create and explore personalized worlds. Virtual reality may be significantly impacted by this technology's ability to create real-time images that blend in seamlessly with virtual reality headgear. Apart from its technological advancements, the system could potentially provide favourable societal outcomes, particularly in the domain of mental health.

DOI: 10.17148/IJARCCE.2024.13726

			For example, it could be used in phobia therapy by allowing patients to face their fears in these virtual environments.
16.	1985	Artificial intelligence and robotics	Artificial Intelligence (AI) plays a major role in robotics, which focuses on connecting perception to action, in order to make this relationship intelligent. Artificial Intelligence addresses fundamental concerns concerning the representation, application, and knowledge necessary for thought. Robotics pushes artificial intelligence (AI) to handle real-world objects, going beyond the easier issues frequently handled in cognitive domains. Robots combine computers, sensors, and mechanical effectors; artificial intelligence (AI) greatly improves each of these elements. The contributions of AI to perception and reasoning about physical objects such as path planning, compliance, uncertainty, and spatial reasoning are highlighted in this overview.

III. CONCLUSION

As AI improves productivity, creativity, and innovation, it is revolutionising a number of industries, including robotics, art, manufacturing, business, and healthcare. Artificial Intelligence (AI) enhances automation and accuracy in robotics, and opens up new creative possibilities in art. Businesses use AI to gain customer insights, customise marketing, and make better decisions. Industry benefits from AI through smart factories and predictive maintenance.

AI helps in telemedicine, personalised treatment, and diagnosis in the medical field. To guarantee AI's beneficial effects on society, ethical issues including algorithmic prejudice, data privacy, and employment displacement must be resolved.

REFERENCES

[1] Rosic, A. (2024). Legal implications of AI in Healthcare. *Clinics in Dermatology*.
[2] Widayanti, R. and Meria, L., 2023. Business modeling innovation using artificial intelligence technology. *International Transactions on Education Technology*, *1*(2), pp.95-104.
[3] Song, J. and Yip, D., 2023, July. Exploring the Intersection of AI Art and Film: A Case Study of Giant. In *2023 IEEE International Conference on Multimedia and Expo Workshops (ICMEW)* (pp. 347-352). IEEE.
[4] Nguyen, Q.N., Sidorova, A. and Torres, R., 2022. Artificial intelligence in business: A literature review and research agenda. *Communications of the Association for Information Systems*, *50*(1), p.7.
[5] Hallur, G.G., Prabhu, S. and Aslekar, A., 2021. Entertainment in era of AI, big data & IoT. *Digital Entertainment: The Next Evolution in Service Sector*, pp.87-109.
[6] Loureiro, S.M.C., Guerreiro, J. and Tussyadiah, I., 2021. Artificial intelligence in business: State of the art and future research agenda. *Journal of business research*, *129*, pp.911-926.
[7] Väänänen, A., Haataja, K., Vehviläinen-Julkunen, K., & Toivanen, P. (2021). AI in healthcare: A narrative review. *F1000Research*, *10*, 6.
[8] Khan, M., Mehran, M. T., Haq, Z. U., Ullah, Z., Naqvi, S. R., Ihsan, M., & Abbass, H. (2021). Applications of artificial intelligence in COVID-19 pandemic: A comprehensive review. *Expert systems with applications*, *185*, 115695.
[9] Blöcher, K. and Alt, R., 2021. AI and robotics in the European restaurant sector: Assessing potentials for process innovation in a high-contact service industry. Electronic Markets, 31(3), pp.529-551.
[10] Brady, M., 1985. Artificial intelligence and robotics. Artificial intelligence, 26(1), pp.79 121.
[11] Soni, N., Sharma, E.K., Singh, N. and Kapoor, A., 2020. Artificial intelligence in business: from research and innovation to market deployment. *Procedia Computer Science*, *167*, pp.2200-2210.
[12] Huang, C., Zhang, L., Jing, Y. and Zhou, D., 2020, August. Efficient Imitation Learning for Game AI. In *2020 IEEE Conference on Games (CoG)* (pp. 128-135). IEEE.

International Journal of Advanced Research in Computer and Communication Engineering

Impact Factor 8.102 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 13, Issue 7, July 2024

DOI: 10.17148/IJARCCE.2024.13726

[13] Jiang, Fei, Yong Jiang, Hui Zhi, Yi Dong, Hao Li, Sufeng Ma, Yilong Wang, Qiang Dong, Haipeng Shen, and Yongjun Wang. "Artificial intelligence in healthcare: past, present and future." *Stroke and vascular neurology* 2, no. 4 (2017).

[14] Van Roy, V., Vertesy, D. and Damioli, G., 2020. AI and robotics innovation (pp. 1-35). Springer International Publishing.

[15] Venkatachalam, N., Rayana, M. and Prathamesh, S., 2024, January. Voice-Driven Panoramic Imagery: Real-Time Generative AI for Immersive Experiences. In *2024 2nd International Conference on Intelligent Data Communication Technologies and Internet of Things (IDCIoT)* (pp. 1133-1138). IEEE.

[16] R.A. Brooks Symbolic error analysis and robot planning Internat. J. Robotics Res. (1982)