Artificial Intelligence In Digital Media: An Overview

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Abstract
Today's world is more of a synthetic world made up of AI and this AI has a deep penetration in our system. Over a period of time, we have been nourishing it with our immense knowledge and resources but it has now started dictating humans what to do and how to do anything and everything. AI has come to change the way we live and interact with technology. AI is the ability of machine to perform complex tasks that humans can do such as reasoning, learning and problem solving. To be more precise, it is the stimulation of human intelligence in machine that is programmed to think and learn like humans. It is the machine designed to think and react like humans and handle the work load done by them. This technology has its strong impact in almost every field. This article covers the concept of Ai in mass communication. The present study is based on secondary data. The data has been extracted from the various sources like research articles, publications from government of India, and authenticated websites. The study found that, AI has become a fundamental component of our daily lives and AI benefits all fields like Engineering, finance, education, marketing, media, and medical systems.
Key Words: *Artificial Intelligence, Technology.*

I.   Introduction

Artificial Intelligence (AI) is a field of science concerned with building computers and machines that can reason, learn and act in such a way that would normally require human intelligence or that involves data whose scale exceeds what humans can analyze. Artificial Intelligence (AI) is broad field that encompasses many different disciplines, including computer science, data analytics and statistics, hardware and software engineering, linguistics, Neurosciences and even philosophical psychology.

Artificial Intelligence is revolutionizing media production, offering new possibilities and efficiencies at every stage of the content creation process. From content creation and curation to automated editing and post production. Visual effects, personalized content delivery and streamlined metadata management are just a few areas where AI is making a significant impact. As AI technologies continue to evolve and improve we can expect further advancements in media production, enabling creators to push the boundaries of their creativity and deliver engaging, personalized content to audiences worldwide. Embracing AI in media production is essential for staying competitive and keeping pace with the rapidly evolving media landscape.

Artificial Intelligence (AI) is rapidly transforming mass communication, enabling personalized content, streamlining processes and enhancing audience engagement but also raising ethical concerns about data privacy and misinformation.

This technology has its strong impact in almost every field. The recent boost in internet and technology has given the way for the development of digital media, journalism and communication. Media has huge impact on our lives and AI has not left any side unaffected. AI in news media is employed for tasks like automated artificial generation, sentiment analysis and personalized content recommendation. With the advancement of information and communication Technology, news media industries have gone to sea changes. Moreover, the emergence of AI and machine learning has redefined the implication of technology in numerous fields and Journalism is no exception to it.

Objectives Of The Study
1. To study the Role of Artificial Intelligence in Media Production.
2. To study the Artificial Intelligence in Action-Industry Wise Statistics.
3. To study the Artificial Intelligence (AI) in Daily Life.
4. To study the Global Artificial Intelligence Market Revenue - By Technology.
5. To study the Global Artificial Intelligence (AI) Market Revenue - By Solution.

II. Research Methodology

The research paper is an exploratory research technique and the data collection is done mainly from the secondary data. The required data has been extracted from past literature, research articles, newspapers, published sources like reports, magazines, journals and the authenticated websites, and internet sources.

III. Review Of Literature

Oghenekevwe Kofi, Oluwatobi Allen (2024) the article entitled "The Rise of AI in Everyday Life: How Artificial Intelligence is Transforming Daily Tasks". This article examines the enormous impact that AI has on different areas in our daily lives. It is a great example of how AI with the help of high algorithm and machine learning components become part in general usage consumer products. Whether in streamlining repetitive tasks or tearing down complex decision making at scale, AI is changing the way people engage with technology. This paper also explores the moral principles and broader social impacts of the universal prevalence of AI.

Nandini, Prabhat Indora and R. K. Singh (2024) the article entitled "Artificial in Journalism: An Overview of its Application and Uses". This paper explores the impact of AI on Journalism encompassing the opportunities and challenges faced during the use of these tools. A survey was conducted on a small scale, samples were selected randomly from different professional backgrounds, this survey provided a detailed summary of what people think about AI and how do they think it will impact Journalism. This research paper finds that, though AI is competent to deal with the fast-pacing environment, specifically the Journalism and Media sector which advances itself on daily basis, it lacks to deal with the human element in this sector.

Basma Samy Abu Nasser and Samy S. Abu Naser (2024) the article entitled "Artificial Intelligence in Digital Media: Opportunities Challenges and Future Directions". This research paper explores the transformative impact of artificial intelligence on digital media, examining both the opportunities it presents and the challenges it poses. The integration of AI into digital media has revolutionized content creation, distribution, and analytics, offering unprecedented levels of personalization, efficiency and insight. Automated journalism, AI-driven recommendation systems and advanced audience analytics are among the key areas where AI is making significant contributions. This study provides a comprehensive analysis of the opportunities and challenges associated with AI integration in digital media. While AI offers significant benefits in terms of content personalization, efficiency, and audience insights, ethical concerns around bias, privacy, and transparency must be addressed. By strategically implementing AI and adhering to ethical guidelines, media organizations can harness the power of AI to enhance their operations and engage users.

Rashima Aissani, Rania A. Abdallah and Sawsan Taha (2023) the article entitled "Artificial Intelligence Tools in Media and Journalism: Roles and Concern". This paper investigates the utilization of AI tools in media and journalism industry, specifically examining their roles in writing, editing, production and distribution of diverse media content. The paper addresses concerns raised by media academics and professionals about the increasing adoption of these tools. Employing a descriptive analytical approach, the paper confirms that media and journalism organizations are actively using a variety of AI tools in their work environment. Additionally, the paper sheds light on various concerns identified by scholars and professionals which include the creation of deep fake news and information, news bias job displacement, insufficient transparency and ethical challenges.

IV. Role Of Artificial Intelligence (Ai) In Media Production

Artificial Intelligence (AI) has rapidly emerged as a transformative force in various industries and the media production landscape is no exception. AI technologies are revolutionizing the way content is created, distributed and consumed, unlocking new possibilities and efficiencies.

➢ **Content Creation and Curation:** Artificial Intelligence (AI) is playing a pivotal role in content creation and curation, enabling media producers to streamline their workflows and enhance creativity. AI-powered algorithms can analyze vast amounts of data, including historical viewership patterns, audience preferences and social media trends to identify content gaps and generate insights for creating engaging and relevant media. These insights can be used to develop storylines, predict audience reception and optimize content for maximum impact.

➢ **Automated Editing and Post Production:** Artificial Intelligence (AI) is automating various aspects of editing and post-production process, allowing for faster turnarounds and improved efficiency. AI algorithms can analyze footage, recognize objects and even understand emotions to generate automated editing suggestions. This technology can save time for editors by providing intelligent recommendations for cuts, transitions and effects. This AI technology reducing the tedious manual tasks associated with post-production like color grading and audio synchronization.

➢ **Visual effects and computer Generated Imagery (CGI):** In media production AI is transforming the field of visual effects and computer generated imagery. AI algorithms can generate realistic visuals, simulate

physics, and enhance special effects, reducing the need for extensive manual work. Deep learning techniques enable AI to learn from existing visual effects data sets and generate new effects with remarkable accuracy. This AI technology increases the speeds in the process and also opens up new creative possibilities for filmmakers and content creators.

➢ **Personalized Content Delivery:** This Artificial Intelligence (AI) technology is revolutionizing content delivery by enabling personalized experiences for consumers. Recommendation algorithms powered by AI analyze user preferences, viewing habits and contextual data to provide tailored content suggestions. This AI technology enhances satisfaction of users, increases engagement and helps platforms to retain their audience.

➢ **Streamlining Metadata and Content Management:** This technology is helping media producers to manage vast amounts of metadata and streamline content management processes. AI algorithms can automatically tag, categorize and organize media assets based on content analysis, speech recognition and image recognition. This simplifies the process of searching for specific assets, improves metadata accuracy and enhances content discoverability. These content management systems enable media producers to efficiently manage their libraries.

Table1: Artificial Intelligence in Action-Industry Wise Statistics

Sl. No.	Name of the Industry	Percentage
1	Telecom and Communication Service Providers	65%
2	Banking and Insurance	63%
3	Oil and Gas	60%
4	Retail and Consumer Product Goods	54%
5	Media and Entertainment	53%
6	Healthcare and Life Sciences	51%
7	Manufacturing and Hi-Tech	49%
8	Travel, Hospitality and Transportation	48%
9	Public Sector	34%

Source: Internet
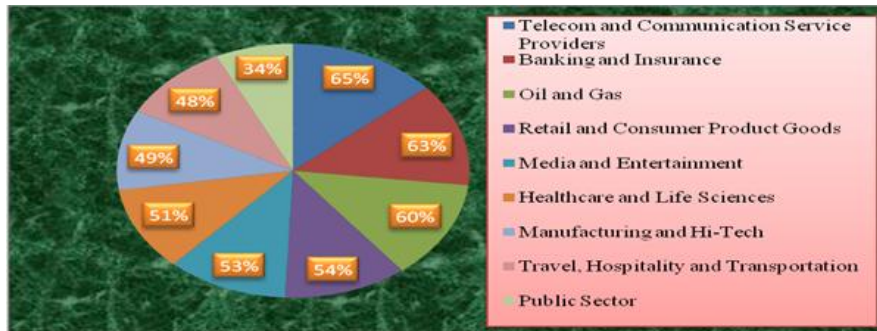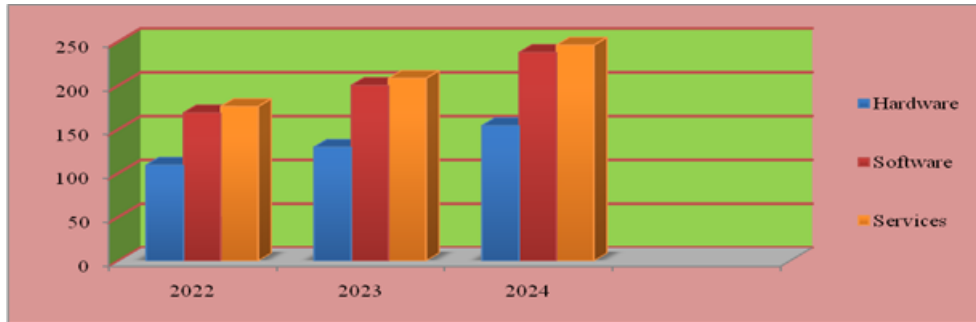

Table 2: Artificial Intelligence (AI) in Daily Life

Sl. No.	Category	Example	Description
1	Personal Assistant	Siri, Alexa, Google Assistant	❖ Voice recognition ❖ Natural language processing for tasks and information.
2	Social Media	Facebook, Instagram, Tik Tok	❖ Content curation ❖ Facial recognition and targeted advertising.
3	E-Commerce	Amazon, eBay, Flipkart	❖ Personalized product recommendations ❖ Inventory management.
4	Transportation	Google Maps, Tesla autopilot	❖ Route optimization ❖ Traffic predictions ❖ Autonomous vehicles
5	Banking & Finance	Fraud detection, Robo-advisors	❖ Real-time fraud alerts ❖ Automated investment portfolio management.
6	Healthcare	Fitness trackers, AI diagnostics	❖ Health monitoring ❖ Disease prediction ❖ Virtual health assistants.
7	Customer Services	Chatbots, virtual assistants	❖ 24/7 support ❖ Automated query resolution
8	Entertainment	Netflix, Spotify	❖ AI-driven content recommendations ❖ Dynamic user experiences.
9	Home Automation	Smart thermostats, robotic vacuums	❖ AI-enabled energy management ❖ Household cleaning

Source: Internet

Table 3: Global Artificial Intelligence (AI) Market Revenue-By Solution
(USD Billion)

| Sl. No.	Solution	2022	2023	2024
1	Hardware	109.20	129.66	154.22
2	Software	168.85	200.24	237.86
3	Services	176.08	208.23	246.14

Source: Internet

Table 4: Global Artificial Intelligence (Ai) Market Revenue-By Technology
(Usd Billion)

Year	TECHNOLOGY			
	Deep Learning	Machine Learning	NLP	Machine Vision
2022	165.98	122.59	91.33	74.22
2023	196.83	145.43	108.31	87.57
2024	233.69	172.72	128.50	103.33

Source: Internet
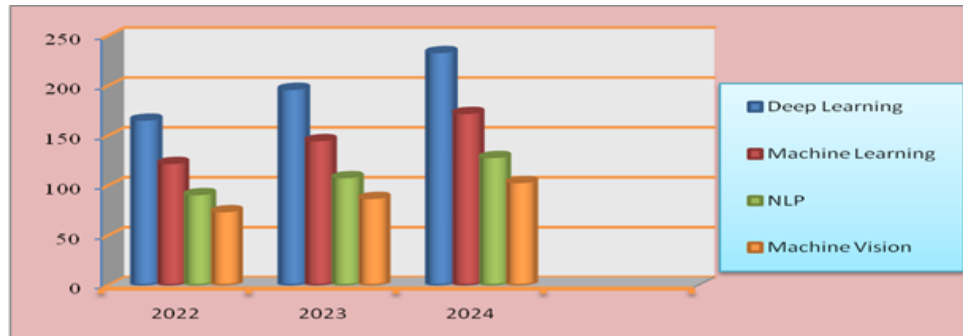
V.   Findings Of The Study

1. Artificial Intelligence has become a fundamental component of our daily lives.
2. Artificial Intelligence benefits all fields like Engineering, Finance, Education, Marketing, Media, and Medical systems.
3. Artificial Intelligence will be at the forefront of creation, which is the driving force behind the media industry.
4. The integration of AI into digital media has revolutionized content creation, distribution and analytics, offering unprecedented levels of personalization, efficiency, and insight.
5. Artificial Intelligence serves as a force for good, steering media towards a future that embodies progress and inclusivity.

VI.   Suggestions

1. Develop and implement transparent AI processes to build user trust. Clearly communicate how AI algorithms work and ensure that users understand how their data is being used. Establish accountability measures to address any issues that arise from AI decisions.
2. Prioritize data privacy by implementing robust data protection policies. Ensure compliance with relevant regulations and adopt best practices for data security to protect user information from unauthorized access and misuse.

3. Collaborate with industry experts, academics, and stakeholders to develop comprehensive ethical guidelines for the use of AI in digital media. These guidelines should address issues of bias, transparency, accountability, and privacy.

4. Efforts should be made to invest in training and development programs that help journalists to understand and utilize the latest AI technologies, while at the same time ensuring the ethical implications are taken into consideration.

5. Artificial Intelligence powered tools can be used to monitor social media platforms for breaking news and trending topics, which can be used to quickly identify and report on important stories.

VII. Conclusion

The work done by humans in the newsroom is now being done with a major help of AI. Though the work done is commendable but it lacks the sense of human creativity, human touch and the emotions. Globally, newsrooms are adopting the AI technology for the production and distribution process which makes a significant impact on the jobs in the journalism and mass media sector. Artificial Intelligence (AI) is a field of science that enables machine to learn and act like humans. AI uses algorithms to analyze data and make decisions. Artificial Intelligence (AI) is a set of technologies that enable computers to perform a variety of advanced functions, including the ability to see, understand and translate spoken and written language, analyze data make recommendations and more. Artificial Intelligence (AI) is backbone of innovation in modern computing unlocking value for individuals and businesses. Artificial Intelligence (AI) has rapidly emerged as a transformative force in various industries, and the media production landscape is no exception. AI technologies are revolutionizing the way content is created, distributed and consumed, unlocking new possibilities and efficiencies.

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