

Understanding the Changing Landscape of Media in the Context of Emerging AI Technologies

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Abstract:

With an emphasis on three main areas Image editing, audio editing, and content writing. This study provides a thorough descriptive review of new AI tools in digital media content creation. The increasing use of AI in several fields has transformed the creation of content by improving accessibility, creativity, and efficiency. For each area, the study chooses three AI-powered tools and assesses their salient characteristics, benefits, and drawbacks. AI-powered solutions in Image editing simplify tasks like color correction, facial improvement, and background removal. The study looks at AI tools for audio editing that help with voice cloning, noise reduction, and speech synthesis. Artificial intelligence (AI) systems that produce text, check for grammar, and support creative writing are used to evaluate content authoring. The examination shows how these tools are influencing the future of creating digital content by posing both technological and ethical issues in addition to providing creative solutions. This study helps to understand the changing environment of AI in digital media production by offering insights into the operation and consequences of these AI tools.

Keywords: AI in digital media, emerging AI tools, AI content creation, applications analysis.

Introduction

Early years of AI

The media sector has seen tremendous transformation as a result of AI, particularly in the area of content recommendation for podcasts. Thus, the goal of this research is to investigate how AI maximizes recommendation accuracy and the manifestation of related aspects like podcast sentiment analysis and speech recognition. AI can provide personalized podcast suggestions for listening to audio content by utilizing deep learning, natural language processing, and machine learning. The dissemination of media material, the future possibilities of the innovation, and the minute differentiation of AI-Podcasting are all critically and thoroughly evaluated in this study.

From a theoretical idea, artificial intelligence (AI) has quickly transformed into a force that is revolutionizing a number of industries. This article examines the beginnings and development of artificial intelligence, stressing significant turning points, technical

developments, and societal effects. The foundation for machine intelligence was established by pioneers such as Alan Turing and John McCarthy in the middle of the 20th century, which is when the idea of artificial intelligence first emerged. In his groundbreaking work "Computing Machinery and Intelligence," Turing asked, "Can machines think?" .McCarthy, who is frequently called the father of artificial intelligence, first used the term "Artificial Intelligence" which is regarded as the beginning of the study of AI. Early AI research was characterized by great money and hope. Programs that could play games like chess, solve algebraic problems, and prove theorems were created by researchers. But as soon as the shortcomings of the initial AI systems were recognized, there were "AI winters"—times when interest and funding were lower (Crevier, 1993). Advances in machine learning, a branch of artificial intelligence that focuses on creating algorithms that let computers learn from and make predictions based on data, marked the beginning of AI's comeback in the 1990s. Particularly revolutionary has been the emergence of deep learning, a branch of machine learning that makes use of multi-layered neural networks.

The effects of AI on society are extensive and varied. AI systems in healthcare help in disease diagnosis and treatment plan customization. Algorithmic trading and fraud detection are two applications of AI-driven algorithms in finance. AI-powered autonomous cars have the potential to completely transform transportation by lowering collision rates and increasing productivity (Litman, 2020). Concerns about ethics are also raised by AI's exponential rise. Important topics of continuous discussion include data privacy, algorithmic bias, and the possibility of employment displacement. Frameworks that guarantee the responsible development and application of AI technologies are being developed by researchers and policymakers. One of the most important technological developments of the twenty-first century is the development and expansion of artificial intelligence. In order to fully utilize AI for the good of humanity, it is imperative that the ethical and societal ramifications be addressed as it develops.

AI is credited with the invention of podcasting, which is currently one of the most popular types of digital media. People have historically been accustomed to using keywords and tags to find podcasts, and as a result, they rapidly get disinterested in the results. Since it uses algorithms that can quickly assess listeners' preferences, it aids in solving this issue and boosts user loyalty and appeal. Thus, the goal of this research is to comprehend how AI has affected individualized podcasting and how it is changing how people consume media. Methodology The results of this study are merged into a single data analysis using both qualitative and quantitative research methodologies.



Fig1: AI-Powered Personalized Podcasting Workflow

Methodology

500 podcast listeners participated in a cross-sectional study to determine the effectiveness of AI personalization.

- **2.1 AI Model Analysis:** evaluation of current AI models in recommendation systems, including collaborative filtering, sentiment analysis based on natural language processing, and reinforcement learning.
- **2.2 Case Study:** analysis of the use of AI in well-known podcasting services including Google Podcasts, Apple Podcasts, and Spotify.

Table 1: AI Techniques Used in Podcast Recommendation

AI Technique	Functionality	Example Platform
Collaborative Filtering	Suggests content based on user behavior	Spotify
NLP	Analyzes podcast transcripts for relevance	Google Podcasts
Reinforcement Learning	Optimizes recommendations over time	Apple Podcasts

Artificial Intelligence and Media

The production, delivery, and consumption of material have all been impacted by artificial intelligence (AI), which has drastically changed the media landscape. This article highlights important technology, applications, and their ramifications as it examines the different ways artificial intelligence is changing media. By enabling automated writing, video production, and image generating, artificial intelligence has completely transformed the content creation process. Human-like prose can be produced by tools like Open AI's GPT-3, which helps writers and journalists create reports and articles. Similar to this, media companies may create high-quality videos fast and effectively by automating the process with AI-driven systems like Wibbitz and Lumen5. The creation of tailored content recommendation systems is one of AI's most notable effects on the media. In order to provide personalized content recommendations, platforms such as Netflix and Spotify employ artificial intelligence (AI) algorithms to examine user interests and behavior. By guaranteeing that viewers receive pertinent and captivating material, these technologies improve the user experience. By automating repetitive processes like fact-checking and data analysis, AI is also revolutionizing journalism. AI is used by news outlets such as Reuters and The Washington Post to create news stories and track breaking news on social media. Furthermore, Factmata and other AI-powered technologies assist journalists in spotting and eliminating false material, guaranteeing the veracity and correctness of news. A number of ethical questions are brought up by the use of AI in media, such as those pertaining to accountability, transparency, and prejudice. Unfair representation and biased content suggestions might result from AI systems unintentionally reinforcing biases seen in training data. Furthermore, in order to preserve audience trust and accountability, transparency is essential when using AI in content development and dissemination. With developments in machine learning, computer vision, and natural language processing spurring additional innovation, the future of AI in media is bright. Media will become more interactive and immersive as AI continues to improve content development, personalization, and dissemination. AI has a huge and diverse impact on media, presenting both enormous opportunities and difficulties. Media companies must address ethical issues and guarantee responsible use as AI technologies advance in order to fully realize their promise.

Methodology and Approach

The three tools of AI applications in digital content creation are analyzed in the study using a descriptive content analysis method. Twenty content creators from a variety of media fraternities were asked to recommend the AI tools they use in three areas of their current digital content creations: content writing, audio editing, and Image editing. For analysis, the maximum

number of recommended tools is shortlisted. To investigate current AI tools and their uses in the production of digital media material, an exploratory study is conducted. The characteristics, benefits, and drawbacks of particular AI technologies are examined using a descriptive research approach. It appears that the people who recommended the applications are the ones who provide the user experiences.

Accordingly, the study's findings imply that creating AI-powered podcast recommendation systems can enhance listeners' experiences.

With 78% of users reporting that they are now more engaged, the results of listener retention as a result of the AI-driven recommendations were also positive. Compared to another search method, there was a 35% higher chance of discovering new information, according to modeling usage statistics. This is due to the fact that 85% of respondents said the AI-recommended content was more pertinent to their interests.

In this instance, AI raises the quality of material for users and makes podcasts easier to find. Sentiment analysis and text-to-speech analysis increase the effectiveness of the recommendations. However, other issues are creating difficult jobs for wider applications, such as the privacy issue and the growing bias in algorithms.

Image Editing through Artificial Intelligence:

In the process of creating digital content, Image editing is essential because it turns unprocessed Images into engrossing visual stories that captivate viewers and communicate difficult ideas. Editors can arouse feelings, foster empathy, and define brand identity by experimenting with color, texture, and composition. High-quality Images boost audience engagement by 650%, according to research, highlighting the significance of Image editing in digital content. Retouching, cropping, and color grading are examples of effective editing procedures that can enhance the authenticity and trustworthiness of an image. Additionally, the process has been simplified by developments in AI-powered editing tools, allowing producers to quickly produce high-quality material. Image editing has become an essential ability for content creators, marketers, and designers looking to successfully connect and attract audiences as digital material continues to dominate online platforms (Potts, 2019). Image editing has been transformed by artificial intelligence (AI), which gives producers previously unheard-of levels of accuracy and productivity. Automated editing chores are made possible by AI-powered tools like object removal, facial recognition, and content-aware fill, which improve accuracy and save time. AI has revolutionized Image editing by simplifying laborious processes and opening up new possibilities, making it a creative, intuitive, and quickly developing discipline.

Cutout Pro

Thirteen focus group participants said that they edit Images using Cutout Pro AI as part of their digital content creation process. Three additional people recommended Remini AI, two others recommended Phot.AI, and the other two said they used Adobe AI (Paid version) for the same purpose. Cutout Pro AI, which has the highest rank order, is analyzed.

A comprehensive platform for creating visual content driven by AI, Cutout Pro provides a variety of tools to improve and streamline image and video editing. The platform is a useful tool for both individual users and organizations because it makes use of cutting-edge computer vision and artificial intelligence technology to produce excellent outcomes. The background removal tool in Cutout Pro is one of its best features. With this tool, users may precisely and automatically remove backgrounds from Images and videos. To ensure that the cutouts are neat and expert, the AI algorithms may isolate items with minute details like hair and fur. E-commerce companies that need to produce product Images with clear backgrounds for their online storefronts will find this feature especially helpful. Cutout Pro provides a tool for Image enhancing and restoration in addition to backdrop removal. With the help of this tool, old or low-quality Images can appear more detailed and vivid by increasing their resolution and quality. Additionally, it has the ability to colorize black-and-white photographs, giving old photographs lifelike hues. Both personal and business applications benefit from this capability, such as improving images for marketing brochures and restoring family Images.

Additionally, Cutout Pro comes with an AI art production tool that lets users make original artwork from basic drawings or reference Images. Digital artists and creative aficionados can explore new artistic possibilities with this tool's variety of styles and customization options. Cartoon selfies are another example of the platform's AI powers, turning ordinary Images into endearing cartoon-style pictures ideal for social network profiles. The video background removal tool is another noteworthy feature that makes video editing easier by automatically removing undesired backdrops. For marketers and content producers that need to create movies that look professional without the need of complicated editing tools or green screens, this tool is especially helpful. While the background is smoothly eliminated, the AI makes sure the topic stays in focus. A variety of retouching tools are also available in Cutout Pro to improve facial characteristics, eliminate extraneous items, and fix flaws. These technologies are intended to raise an image's overall quality so that it can be used professionally in advertising and Image graphy. Users with different degrees of technical expertise can use the platform because of its user-friendly design and effective AI algorithms. Cutout Pro is a robust and adaptable platform that provides a collection of AI-powered tools for editing Images and

videos. A variety of digital content creation needs are met by its features, which include backdrop removal, Image enhancement, AI art development, and video background removal. Cutout Pro is a priceless tool for both personal and commercial use since it uses cutting-edge AI technology to help users create excellent visual material fast and effectively.

One participant who replied that he used this AI shares his experiences with it. The AI-powered picture editing features of Cutout.pro can greatly improve the production of digital media material in a number of ways. The creation of digital media content benefits greatly from the use of AI-powered image editing solutions like Cutout.pro. Creators may optimize their workflow and spare up time to concentrate on more complex creative decisions by automating processes like background removal, masking, and editing. Furthermore, AI-driven tools and batch processing greatly boost productivity by facilitating the quick editing of numerous Images to fulfill deadlines. Exceptionally high-quality graphics are also guaranteed by the precise editing capabilities and sophisticated image enhancement technologies. It is also an economical solution because the automated procedures reduce the expenses related to manual editing. Finally, the scalability of Cutout.pro facilitates extensive picture modification, meeting the demands of high-volume content producers and eventually enabling them to create visually stunning material quickly and effectively. Digital media content creation is revolutionized by Cutout pro's AI-driven capabilities, which include batch processing, AI-powered masking, smart selection tools, automated background removal, and image enhancing (color correction, noise reduction, and sharpening). Creators can greatly boost output, improve visual quality, cut expenses, and fulfill deadlines by utilizing these skills. In the end, Cutout.pro unlocks new levels of creativity and artistic expression by allowing content creators to concentrate on high-level creative decisions.

Another piece of information is provided by the respondents' weaknesses. Numerous other features are available in the Pro version, which requires a subscription. Although its use is limited, the free version is adequate for a small-scale content producer. Without a subscription, a creative cannot rely on AI tools for large-scale content development.

Artificial Intelligence Audio Editing

In order to improve the aural quality of multimedia experiences, audio editing is essential to the production of digital material. Editors can increase emotional impact, improve narrative clarity, and produce engrossing atmospheres by improving sound quality. While mixing and mastering guarantee well-balanced and polished soundscapes, sophisticated techniques like noise reduction, EQing, and compression allow for exact control over audio textures. By balancing audio and visual components, good audio editing engages listeners and

communicates difficult concepts. High-quality audio editing is essential for drawing viewers in, evoking strong feelings, and propelling narrative in podcasting, video creation, and gaming. AI improves sound quality and cuts down on editing time by automating audio editing chores. Real-time audio file analysis and optimization are done by AI-powered algorithms. AI-powered solutions that offer individualized sound optimization and intelligent mixing are revolutionizing audio post-production.

Adobe Podcast

Adobe Podcast is a feature-rich web application made to make producing high-caliber audio material easier. This platform offers a range of capabilities that accommodate both inexperienced and seasoned podcasters by utilizing cutting-edge AI technologies. Adobe Podcast's AI-powered transcription is one of its best features. This application makes it simpler for users to write transcripts of their episodes by automatically turning spoken words into text. This feature is especially helpful for making podcast content more searchable and accessible. The Enhance Speech function, which uses AI to eliminate background noise and improve the clarity of voice recordings, is another noteworthy feature. Even if the initial recording conditions weren't perfect, this guarantees that the finished audio output is clear and polished. Furthermore, by assisting users in fine-tuning their microphone settings prior to recording, the Mic Check tool lowers the possibility of technical problems that could degrade audio quality.

Users may record, edit, and improve their audio right in their browser with Adobe Podcast's Studio component. This offers a smooth, integrated experience and does away with the necessity for complicated program installations. Users can use AI technologies to edit and improve their recordings after recording audio in high-quality formats like 16-bit 48k WAV. Because of this, the platform is very easy to use and accessible, particularly for people who might not have access to sophisticated recording gear or software. Additionally, Adobe Podcast provides a number of extra features aimed at improving the podcasting experience in general. For example, it offers a selection of royalty-free, pre-edited music that users can utilize in their episodes. This guarantees that consumers have access to high-quality audio files that can improve the production value of their podcasts in addition to saving time. Additionally, because the platform is web-based, users may access their projects from any location with an internet connection, offering convenience and flexibility³. Making podcasts of a high caliber is made easier using Adobe Podcast, a strong and flexible tool. It is a great option for podcasters of all skill levels because of its AI-driven capabilities, which include transcription, noise reduction, and audio improvement, as well as its user-friendly interface and web-based accessibility.

Adobe Podcast provides a complete solution that can assist you in reaching your objectives, regardless of whether you're just getting started or want to optimize your production process.

One respondent, Arun, shared his Adobe Enhance experiences. As the host of the Alai Podcast, which is accessible on Spotify, he claims that the integrity and popularity of the brand drew him and his team to choose Adobe Podcast for the creation of digital content. His team uses Adobe Podcast for their production work and Bandlab, another supporting application, for audio editing. He also mentions the AI-powered transcription tool offered by Adobe Podcast, which automatically turns spoken speech into text. This is very helpful for boosting accessibility, improving search engine optimization (SEO), and producing podcast episode transcripts. The Enhance Speech tool also use AI to eliminate background noise and enhance speech recordings' clarity, guaranteeing a clean and expert end result. Additionally, the platform has a Mic Check function that assists users in fine-tuning their microphone settings prior to recording. This guarantees excellent audio quality right away and lowers the possibility of technical problems. To further save time and improve the overall production value, Adobe Podcast provides a library of royalty-free music that is simple to add into episodes. All things considered; Adobe Podcast offers a full range of tools that simplify the process of creating digital content. Because it is web-based, users may work from any location with an internet connection, providing ease and flexibility. Adobe Podcast gives you the resources you need to quickly and effectively create work of professional quality, whether you're doing a podcast, audio blog, or any other type of digital audio material.

Another piece of information is provided by the respondents' weaknesses. Numerous other features are available in the Pro version, which requires a subscription. Although its use is limited, the free version is adequate for a small-scale content producer. A creative cannot rely on AI tools for large-scale content development without a membership.

Artificial Intelligence Content Writing

The narrative beating heart of creating digital content is content writing, which gives visual experiences life and captivates consumers with gripping tales. Expert content writers create interesting, educational, and optimized content that appeals to target audiences, increasing brand recognition and fostering deep connections. Well-written content conveys important messages, creates brand voice, and supports SEO tactics in everything from blog entries and articles to product descriptions and social media captions. Good content writing complements visual components, increasing the impact of digital content and affecting user experiences on many platforms.

AI transforms content writing in digital content production by increasing creativity and optimizing workflows. Artificial intelligence (AI)-powered systems examine audience preferences and produce data-driven insights to guide tone and topic selection. Sophisticated algorithms support research by recommending pertinent keywords and improving SEO. Rapid production of excellent, captivating content, including blog entries, social media postings, and product descriptions, is made possible by AI-driven content generation. Furthermore, AI-powered editing and proofreading guarantee flawless and polished material, increasing the overall effectiveness of the content.

ChatGPT:

Because ChatGPT is a flexible tool that may help with different phases of the writing process, it plays a big part in content writing for digital media content development. Creating well-organized, logical, and contextually relevant material on a variety of subjects is one of its main duties. ChatGPT can assist speed up the content production process by providing ideas, creating preliminary versions, and editing content depending on user inputs, whether you're creating blog posts, articles, social media captions, or even more specialized content like product descriptions or newsletters. It is especially useful for authors working under pressure or with high content demands because of its capacity to produce material rapidly. Even though ChatGPT has many benefits, human oversight is still necessary since it occasionally produces material that is factually incorrect or lacks a sophisticated grasp of a complicated subject. Because of this, ChatGPT works best as a collaborative tool in which human writers offer direction, fact-checking, and fine-tuning to guarantee that the content is correct, interesting, and beneficial for the audience.

According to Naren, a freelance content writer who creates lifestyle content for many websites, ChatGPT is just a search engine in his opinion. He claims that it saves a significant amount of time spent on several websites. When managing Chat GPT, factual accuracy is a crucial consideration. When creating material for digital media, a content writer cannot fully rely on ChatGPT. When employing any of these AI techniques, fact-checking is a must. He goes on to say that ChatGPT is very beneficial for content writers working on English-language websites, but it is not as reliable for regional languages, particularly Tamil.

Microsoft Copilot

Because Microsoft Copilot directly integrates AI capabilities into widely used productivity products like Word, Excel, and PowerPoint, it plays a significant role in content writing for the generation of digital media material. It acts as an intelligent assistant, assisting writers in producing more accurate and efficient text. Copilot helps with text creation, editing,

and refinement in programs like Microsoft Word by providing recommendations for language, tone, and sentence structure. For writers and marketers who must create a lot of digital material, it can help expedite the process by producing first drafts or revising content in response to user input. Additionally, Microsoft Copilot integrates with other Microsoft 365 apps to help increase productivity. It is a useful tool for producing data-driven articles, reports, or presentations since it can, for instance, import pertinent data from Excel or SharePoint to enrich text with facts, figures, or insights. For those working in content marketing, where data is essential to creating compelling and powerful content, this makes it very helpful. Copilot's capacity to support both technical and creative writing enables users to automate more repetitive writing activities while concentrating on higher-level duties like content strategy and creative direction.

According to Sangeetha, a content writer at an advertising company, Microsoft Co-pilot appears to be far more practical than other AI tools for content creation. She goes on to say that Microsoft includes appropriate URLs in the response, which also aids in fact-checking. Copilot makes it simple to find relevant information, features, and product similarities, which greatly simplifies the work. She adds that she hasn't tried any other languages because she didn't require them when asked about regional languages.

Conclusion

Digital media content creation has been transformed by AI tools, which increase productivity and streamline the creative process. These technologies facilitate the quick creation of pertinent and well-structured information, aid in editing, and streamline workflow. But even with their effectiveness, human control is still necessary to guarantee correctness and originality, especially in fields that call for complex comprehension and emotional nuance. As AI continues to evolve, these tools will undoubtedly become more integral in content creation, helping writers focus on higher-level tasks while automating routine processes efficiently. AI-powered Image editing has revolutionized the digital content creation landscape by enhancing the efficiency and quality of visual story telling. The integration of advanced tools allows creators to transform raw images into captivating narratives that resonate with audiences. These technologies enable content producers to concentrate on their creative ideas while guaranteeing high-quality results by simplifying time-consuming chores and offering cutting-edge features. Learning picture editing will continue to be essential for marketers, designers, and content producers who want to effectively connect their audiences and communicate complicated ideas with impact and clarity as digital platforms develop. Embracing these advancements not only enhances productivity but also fosters creativity, ultimately shaping the future of digital media. Recognition to developments in artificial intelligence, podcasters have started personalizing

their presentations. It has been demonstrated that employing AI to produce content for the web improves user engagement and content discovery; however, privacy and ethical concerns are still important topics that need further research. Additional advancements in AI will increase the need for real-time processing and, consequently, conversational AI. They will also increase the accuracy of following content recommendations, solidifying its place in the contemporary media landscape.

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