



A Descriptive Study on Emerging AI Tools in Digital Media Content Creation

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ABSTRACT

This paper presents a comprehensive descriptive analysis of emerging AI tools in digital media content creation, focusing on three key areas: photo editing, audio editing, and content writing. The growing integration of AI in these domains has revolutionized content production, enhancing efficiency, creativity, and accessibility. The study selects three AI-powered tools for each category and evaluates their core features, advantages, and limitations. In photo editing, AI-driven tools streamline processes such as background removal, facial enhancement, and color correction. For audio editing, the research examines AI applications that assist in speech synthesis, noise reduction, and voice cloning. Content writing is evaluated through AI tools that generate text, perform grammar checks, and assist in creative writing. The analysis reveals how these tools are shaping the future of digital content creation by offering innovative solutions while also raising ethical and technical challenges. By providing insights into the functionality and implications of these AI tools, this paper contributes to understanding the evolving landscape of AI in digital media production.

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

1. Early years of AI

Artificial Intelligence (AI) has rapidly evolved from a theoretical concept to a transformative force across various industries. This article explores the emergence and growth of AI, highlighting key milestones, technological advancements, and its impact on society. The concept of AI dates back to the mid-20th century when pioneers like Alan Turing and John McCarthy laid the groundwork for machine intelligence. Turing's seminal paper, "Computing Machinery and Intelligence," posed the question, "Can machines think?" (Turing, 1950). McCarthy, often referred to as the father of AI, coined the term "Artificial Intelligence" in 1956 during the Dartmouth Conference, which is considered the birth of AI as a field of study (McCarthy et al., 1956). The early years of AI research were marked by optimism and significant funding. Researchers developed programs that could solve algebra problems, prove theorems, and play games like chess. However, the limitations of early AI systems soon became apparent, leading to periods of reduced funding and interest, known as "AI winters" (Crevier, 1993). The resurgence of AI began in the 1990s with advancements in machine learning, a subset of AI that focuses on developing algorithms that allow computers to learn from and make predictions based on data. The development of deep learning, a type of machine learning that uses neural networks with many layers, has been particularly transformative. Notable milestones include IBM's Deep Blue defeating world chess champion Garry Kasparov in 1997 (Campbell, Hoane, & Hsu, 2002) and Google's AlphaGo defeating Go champion Lee Sedol in 2016 (Silver et al., 2016).

AI's impact on society is profound and multifaceted. In healthcare, AI algorithms assist in diagnosing diseases and personalizing treatment plans (Esteva et al., 2017). In finance, AI-driven algorithms are used for fraud detection and algorithmic trading (Bose & Mahapatra, 2001). Autonomous vehicles, powered by AI, promise to revolutionize transportation by reducing accidents and improving efficiency (Litman, 2020). The rapid growth of AI also raises ethical concerns. Issues such as data privacy, algorithmic bias, and the potential for job displacement are critical areas of ongoing debate. Researchers and policymakers are working to develop frameworks that ensure the responsible development and deployment of AI technologies (Floridi et al., 2018). The emergence and growth of AI represent one of the most significant technological advancements of the 21st century. As AI continues to evolve, it is essential to address the ethical and societal implications to harness its full potential for the benefit of humanity.

2. AI and Media

Artificial Intelligence (AI) has significantly transformed the media industry, influencing content creation, distribution, and consumption. This article explores the various ways AI is reshaping media, highlighting key technologies, applications, and their implications. AI has revolutionized content creation by enabling automated writing, video production, and image generation. Tools like OpenAI's GPT-3 can generate human-like text, assisting journalists and writers in drafting articles and reports (Brown et al., 2020). Similarly, AI-driven platforms like Wibbitz and Lumen5 automate video

creation, allowing media companies to produce high-quality videos quickly and efficiently (Smith, 2021). One of the most significant impacts of AI in media is the development of personalized content recommendation systems. Platforms like Netflix and Spotify use AI algorithms to analyze user preferences and behavior, providing tailored content suggestions (Gomez-Uribe & Hunt, 2015). These systems enhance user experience by ensuring that audiences receive relevant and engaging content. AI is also transforming journalism by automating routine tasks such as data analysis and fact-checking. News organizations like The Washington Post and Reuters use AI to generate news reports and monitor social media for breaking news (Graefe, 2016). Additionally, AI-powered tools like Factmata help journalists identify and mitigate misinformation, ensuring the accuracy and credibility of news (Riedel et al., 2017). The integration of AI in media raises several ethical concerns, including issues of bias, transparency, and accountability. AI algorithms can inadvertently perpetuate biases present in training data, leading to skewed content recommendations and unfair representation (Noble, 2018). Moreover, the use of AI in content creation and distribution necessitates transparency to maintain audience trust and accountability. The future of AI in media looks promising, with advancements in natural language processing, computer vision, and machine learning driving further innovation. AI is expected to continue enhancing content creation, personalization, and distribution, making media more interactive and immersive (Kaplan & Haenlein, 2019). AI's influence in media is profound and multifaceted, offering numerous benefits while also posing significant challenges. As AI technologies continue to evolve, it is crucial for media organizations to address ethical considerations and ensure responsible use to harness AI's full potential.

3. Methodology and Approach

The article uses a Descriptive Content analysis method of approach to analyse the three utilities of AI applications in digital content creation. A small group of twenty content creators from various media fraternities were asked to suggest the AI tools they employ in three domains (photo editing, audio editing, and content writing) of their contemporary digital content creations. The maximum suggested tools is short listed for analysis. An Exploratory Research is carried out to examine existing AI tools and their applications in digital media content creation. Descriptive Research style is adopted to analyze their features, pros, and cons of selected AI tools. Apparently the user experiences are gathered from the participants who suggested the Applications.

4. AI Photo Editing:

Photo editing plays a pivotal role in digital content creation, transforming raw images into captivating visual narratives that engage audiences and convey complex messages (Kobre, 2017). By enhancing color, texture, and composition, editors can evoke emotions, create empathy, and establish brand identity (Walker, 2019). Research shows that high-quality images increase audience engagement by 650% (HubSpot, 2020), underscoring the importance of photo editing in digital content. Effective editing techniques, such as retouching, cropping, and color grading, can also improve image authenticity and credibility (Lester, 2018). Furthermore, advancements in AI-powered editing tools have streamlined the process, enabling creators to produce professional-grade content efficiently (Adobe, 2020). As digital content continues to dominate online platforms, photo editing has become an indispensable skill for content creators, marketers, and designers seeking to captivate audiences and communicate effectively (Potts, 2019). Artificial Intelligence (AI) has revolutionized photo editing, empowering creators with unprecedented precision and efficiency. AI-powered tools, such as content-aware fill, facial recognition, and object removal, enable automated editing tasks, saving time and enhancing accuracy. By streamlining tedious tasks and unlocking innovative capabilities, AI has transformed photo editing into an intuitive, creative, and rapidly evolving field.

4.1 Cutout.Pro

13 Participants from the focus group responded that they use Cutout.Pro AI for photo editing in their process of digital content creation. 3 of others suggested Remini AI and other 2 has suggested Phot.AI and the other 2 responded they use Adobe AI (Paid version) for the same. Having the Highest rank order Cutout.Pro AI is subjected to analysis.

Cutout.Pro is a comprehensive AI-powered visual content creation platform that offers a wide range of tools designed to simplify and enhance image and video editing. The platform leverages advanced artificial intelligence and computer vision technologies to deliver high-quality results, making it a valuable resource for both individual users and businesses. One of the standout features of Cutout.Pro is its background removal tool. This tool allows users to automatically remove backgrounds from images and videos with remarkable precision. The AI algorithms are capable of isolating subjects with fine details, such as hair and fur, ensuring that the cutouts are clean and professional. This feature is particularly useful for e-commerce businesses that need to create product images with transparent backgrounds for their online stores. In addition to background removal, Cutout.Pro offers a photo enhancement and restoration tool. This tool can improve the resolution and quality of images, making old or low-quality photos look vibrant and detailed. It can also colorize black-and-white photos, bringing historical images to life with realistic colors. This feature is beneficial for both personal use, such as restoring family photos, and professional use, such as enhancing images for marketing materials.

Cutout.Pro also includes an AI art generation tool, which allows users to create unique artwork from simple sketches or reference images. This tool offers various styles and customization options, enabling digital artists and creative enthusiasts to explore new artistic possibilities. The platform's AI capabilities extend to generating cartoon selfies, transforming regular photos into charming cartoon-style images that are perfect for social media profiles. Another notable feature is the video background removal tool, which simplifies the process of editing videos by automatically eliminating unwanted backdrops. This tool is particularly useful for content creators and marketers who need to produce professional-looking videos without the need for green screens or complex editing software. The AI ensures that the subject remains in focus while the background is seamlessly removed. Cutout.Pro also provides a range

of retouching tools that can correct blemishes, remove unwanted objects, and enhance facial features. These tools are designed to improve the overall quality of images, making them suitable for professional use in photography and advertising. The platform's user-friendly interface and efficient AI algorithms make it accessible to users with varying levels of technical expertise. Cutout.Pro is a versatile and powerful platform that offers a suite of AI-driven tools for image and video editing. Its features, such as background removal, photo enhancement, AI art generation, and video background removal, cater to a wide range of digital content creation needs. By leveraging advanced AI technologies, Cutout.Pro enables users to produce high-quality visual content quickly and efficiently, making it an invaluable tool for both personal and professional use.

Suneesh (Personal Communication, 2024) a participant who responded as using this AI expresses his experiences with the tool. He says that Cutout.pro's AI-powered image editing capabilities can significantly enhance digital media content creation in several ways. The integration of AI-powered image editing tools, such as Cutout.pro, brings numerous benefits to digital media content creation. By automating background removal, masking, and editing tasks, creators can streamline their workflow, freeing up time to focus on high-level creative decisions. Additionally, batch processing and AI-driven tools significantly increase productivity, enabling rapid editing of multiple images to meet tight deadlines. The advanced image enhancement features and precise editing capabilities also ensure exceptionally high-quality visuals. Furthermore, the automated processes minimize costs associated with manual editing, making it a cost-effective solution. Lastly, Cutout.pro's scalability supports large-scale image editing, catering to the needs of high-volume content creators, and ultimately empowering them to produce visually stunning content efficiently and effectively. Cutout.pro's AI-driven features - including automated background removal, AI-powered masking, smart selection tools, image enhancement (color correction, noise reduction, sharpening), and batch processing - revolutionize digital media content creation. By leveraging these capabilities, creators can significantly increase productivity, enhance visual quality, reduce costs, and meet tight deadlines. Ultimately, Cutout.pro enables content creators to focus on high-level creative decisions, unlocking new levels of innovation and artistic expression.

The shortcomings recorded by the responded add an additional insight. The Pro version provides vast range of additional features which is provided on a subscription. The free version is available with restricted usage but the same is sufficient for a small scale content creator. For a large scale of content creations a creator cannot rely on AI tools without subscription.

5.AI Audio Editing

Audio editing plays a vital role in digital content creation, elevating the sonic landscape of multimedia experiences. By refining sound quality, editors can amplify emotional impact, enhance narrative clarity, and create immersive atmospheres. Advanced techniques like noise reduction, EQing, and compression enable precise control over audio textures, while mixing and mastering ensure balanced and polished soundscapes. Effective audio editing harmonizes visual and auditory elements, engaging audiences and conveying complex ideas. In podcasting, video production, and gaming, high-quality audio editing is crucial for capturing attention, conveying emotion, and driving storytelling. AI automates audio editing tasks, enhancing sound quality and reducing editing time. AI-powered algorithms analyze and optimize audio files in real-time. AI-driven tools revolutionize audio post-production with intelligent mixing and personalized sound optimization.

Among the 20 Participants 16 People responded that they use Adobe AI tool for Audio editing in content creation. 2 of others suggested that they use Voice.AI and the other 2 suggested that Cleanvoice.AI for the same.

5.1Adobe Podcast :

Adobe Podcast is a comprehensive web-based tool designed to streamline the process of creating high-quality audio content. This platform leverages advanced AI technologies to offer a suite of features that cater to both novice and experienced podcasters. One of the standout features of Adobe Podcast is its AI-powered transcription. This tool automatically converts spoken words into text, making it easier for users to create transcripts of their episodes. This feature is particularly useful for improving accessibility and searchability of podcast content. Another significant feature is the Enhance Speech tool, which utilizes AI to remove background noise and enhance the clarity of voice recordings. This ensures that the final audio output is crisp and professional, even if the original recording conditions were less than ideal⁴. Additionally, the Mic Check feature helps users optimize their microphone settings before they start recording, reducing the likelihood of technical issues that could affect audio quality.

The Studio component of Adobe Podcast allows users to record, edit, and enhance their audio directly in their browser. This eliminates the need for complex software installations and provides a seamless, integrated experience. Users can record audio in high-quality formats such as 16-bit 48k WAV, and then use AI tools to edit and enhance their recordings⁴. This makes the platform highly accessible and convenient, especially for those who may not have access to advanced recording equipment or software. Adobe Podcast also offers a range of additional features designed to enhance the overall podcasting experience. For instance, it includes a collection of pre-edited, royalty-free music that users can incorporate into their episodes. This not only saves time but also ensures that users have access to high-quality audio tracks that can enhance the production value of their podcasts. Furthermore, the platform's web-based nature means that users can access their projects from anywhere with an internet connection, providing flexibility and convenience³. Adobe Podcast is a powerful and versatile tool that simplifies the process of creating professional-quality podcasts. Its AI-driven features, such as transcription, noise reduction, and audio enhancement, combined with its user-friendly interface and web-based accessibility, make it an excellent choice for podcasters of all levels. Whether you're just starting out or looking to streamline your production process, Adobe Podcast offers a comprehensive solution that can help you achieve your goals.

Arun (Personal Conversation, 2024) one among the respondent expressed his experiences with the Adobe Enhance. Being a podcaster of the Alai Podcast available on spotify he says that the brand popularity and its integrity pulled him and his team to utilise Adobe Podcast for the Digital Content Creation. His team uses another supporting Application called Bandlab for editing their audio works and they use Adobe Podcast for their Production works. He further adds that Adobe Podcast's AI-powered transcription service, which automatically converts spoken words into text. This is particularly useful for creating transcripts of podcast episodes, improving accessibility, and enhancing search engine optimization (SEO). Additionally, the Enhance Speech tool uses AI to remove background noise and improve the clarity of voice recordings, ensuring that the final product is professional and polished. The platform also includes a Mic Check feature, which helps users optimize their microphone settings before recording. This reduces the likelihood of technical issues and ensures high-quality audio from the outset. Furthermore, Adobe Podcast offers a library of royalty-free music that can be easily incorporated into episodes, saving time and enhancing the overall production value. Overall, Adobe Podcast provides a comprehensive suite of tools that streamline the digital content creation process. Its web-based nature allows users to work from anywhere with an internet connection, offering flexibility and convenience. Whether you're creating a podcast, an audio blog, or any other form of digital audio content, Adobe Podcast equips you with the tools needed to produce professional-quality work efficiently.

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6.AI Content Writing

Content writing is the narrative heartbeat of digital content creation, breathing life into visual experiences and captivating audiences through compelling storytelling. Skilled content writers craft engaging, informative, and optimized text that resonates with target audiences, driving brand awareness, and sparking meaningful connections. From blog posts and articles to social media captions and product descriptions, well-crafted content communicates key messages, establishes brand voice, and fuels SEO strategies. Effective content writing harmonizes with visual elements, amplifying digital content's impact and influencing user experiences across platforms.

AI revolutionizes content writing in digital content creation, streamlining processes and amplifying creativity. AI-powered tools analyze audience preferences, generating data-driven insights to inform topic selection and tone. Advanced algorithms assist in research, suggesting relevant keywords and optimizing SEO. AI-driven content generation enables rapid production of high-quality, engaging content, such as blog posts, social media posts, and product descriptions. Additionally, AI-fueled editing and proofreading ensure error-free and refined text, enhancing overall content efficacy.

8 Respondents reported that They use ChatGPT for content writing and 8 respondent that they use Microsoft Copilot for the same. Among 4 others, 2 responded that they use Google Gemini and 2 responded that they use Meta AI for content writing.

6.1ChatGPT

ChatGPT plays a significant role in content writing for digital media content creation by serving as a versatile tool that can assist with various stages of the writing process. One of its primary functions is generating well-structured, coherent, and contextually relevant content across a wide range of topics. Whether it's producing blog posts, social media captions, articles, or even more specialized content like product descriptions or newsletters, ChatGPT can help streamline the content creation process, offering ideas, drafting initial versions, and refining content based on user inputs. This ability to generate content quickly makes it particularly valuable for creators working within tight deadlines or with high content demands. However, while ChatGPT offers substantial advantages, it is still important for human oversight, as it may sometimes generate information that is factually inaccurate or lacks the nuanced understanding of a complex topic. As a result, ChatGPT functions best as a collaborative tool where human writers provide guidance, fact-checking, and fine-tuning to ensure that the content aligns with the intended purpose and is accurate, engaging, and valuable for the audience.

Naren (Personal Communication, 2024) a freelance content writer working of life style contents for various websites suggests that ChatGPT is merely a search engine for him. He says that it saves a lot of time spent of surfing various websites. Reliability of facts is a serious factor to be noted while handling Chat GPT. A content writer cannot rely on ChatGPT to the fullest for writing contents for digital media. Fact checking is a mandatory process while using any such AI tools. He further adds that as a content writer for English websites ChatGPT is highly helpful whereas the same reliability cannot be expected for regional language especially Tamil.

6.2Microsoft Copilot

Microsoft Copilot plays an important role in content writing for digital media content creation by integrating AI capabilities directly into commonly used productivity tools like Word, Excel, and PowerPoint. It functions as an intelligent assistant, helping writers generate content more efficiently and accurately. In platforms like Microsoft Word, Copilot assists in drafting, editing, and refining text by offering suggestions for sentence structure, tone, and language. It can help streamline the content creation process by generating first drafts or rewriting content based on user prompts, saving time for writers and marketers who need to produce large volumes of digital content. Moreover, Microsoft Copilot aids in improving productivity by integrating with other Microsoft 365 applications. For example, it can pull in relevant data from Excel or SharePoint to enhance content with facts, figures, or insights, making it a valuable tool for creating data-driven articles, reports, or presentations. This makes it particularly useful for professionals in content marketing,

where data plays a crucial role in making content persuasive and impactful. With its ability to assist with both creative writing and technical content, Copilot allows users to focus on higher-level tasks, such as content strategy and creative direction, while automating more routine writing processes.

Sangeetha (Personal Conversation, 2024) who is working as a content writer for an advertising firm adds up that Microsoft co-pilot seems to be much convenient than other AI tools while writing content. She adds that that Microsoft provides proper hyperlinks within the response which gives a hand in fact checking too. Searching appropriate details, utilities and similarities of a product is made easy in co-pilot, that makes the task much easier. When questioned about regional languages she add that she hasn't tried other languages as she had no need for the same.

7. Conclusion

AI tools have revolutionized content creation for digital media by streamlining the creative process and enhancing productivity. These tools enable rapid generation of well-structured and relevant content, assist in editing, and optimize workflow. However, despite their efficiency, human oversight remains essential to ensure accuracy and creativity, particularly in areas requiring nuanced understanding and emotional depth. 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 photo editing has revolutionized the digital content creation landscape by enhancing the efficiency and quality of visual storytelling. The integration of advanced tools allows creators to transform raw images into captivating narratives that resonate with audiences. By streamlining tedious tasks and providing innovative features, these technologies empower content creators to focus on their artistic vision while ensuring high-quality outputs. As digital platforms continue to evolve, mastering photo editing will remain a crucial skill for marketers, designers, and content creators aiming to engage their audiences effectively and convey complex messages with clarity and impact. Embracing these advancements not only enhances productivity but also fosters creativity, ultimately shaping the future of digital media.

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