

# Human-AI Collaboration In Creative Endeavours

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**Abstract**—This paper explains the change of the creativity from various field and integrates the Artificial Intelligence (AI) with them. It also explains how the AI can collaborate with human and how does this AI-human collaboration affect creativity? The research problem recognises the creative activity as a dynamic and complex work process, where various fields such as music, theatre, dance, fine art, sculpture, painting and cinema come together, lead to rich and new creative output. The literature review brings key evidence that reveals the change in the form of research performed. The analysis of findings provides various reasons to explain how AI interact with human, makes work efficient, helps to produce high quality output and respects human ethics as well as how AI collaborate with a human. It also highlights how human play a crucial role in creative activity. Conclusion finds as the result the complex relationship between the human and AI in creative domain helping to feel respect to each other and maintain nature of work and keeping ethical issues etc.

**Keywords**—Artificial intelligence (AI), Creativity, Collaboration, Human-AI Collaboration, Creative process, co-creativity

## I. INTRODUCTION

With the dawn of AI, a lot of things have started to become automated and efficient. There is even a fear of AI taking over jobs which effect our life in a very real way. In this study, we aim to provide a consolidated view on human collaboration with AI in creative endeavours. Efficiency of AI is undeniable but AI being creative something which has not come to fruition yet. Creating something with nothing but a vision in the brain is something that is thought to be unique to humans. A lot of evolution owes itself to human's creative genius. Can AI learn to be creative? If yes, how do we tackle with the concept of ownership and credit? Is creativity to making converting the artificial nature of AI into a more human like entity? In their paper "AI + Art = Human" [1], Daniele et al., have explored the effects of AI generated art on the lives of human artists and how that landscape has changed. They concluded that AI can be a good augment for human creativity and helps speed up the creative process. They also pointed out that ethical concerns arise due to lack of human involvement in AI generated art which has been trained and is driven by other artist's work.

Human-AI working together on a creative project is a very complex relationship. It can range from a human using a simple AI tool or in developing very complex mathematical insights. When it comes to creative fields, there are a lot of

ethical concerns that can be raised, especially in music, art and designs. The lack of a consolidated view on this young but rapidly evolving and complex relationship can be a hindrance in the future. This research aims to address this gap by synthesizing findings from various other papers/studies, investigating the complex collaboration of humans and AI in creative fields offering an understanding of the future, advantages and limitations.

Creativity is not unique to fields like art, movies, poetry, music etc. Humans use their creativity in all aspects of life. This research paper aims to make a contribution in understanding the collaboration with AI in creative works by examining AI's impact on a wide range of domains from pure creative fields like poetry, music, sound design to a more generic perspective of education, student-AI collaborations, etc. The paper also explores the perspective of the article by Puronas et al. [2] on cutting-edge projects like Sonic Alchemist and Shapi along with taking a look at the ethical considerations that humans need to have while dealing with AI in creative domains. Also highlighted in this paper is the nuanced and complex nature of Human-AI relationship and an objective view at the advantages and disadvantages of this relationship for humans. Although the paper's consolidated views on Human-AI collaboration in creative domains shed some much needed light on this topic, it also serves as a valuable resource for setting the expectations of the future and how to traverse this dynamic and rapidly evolving area.

In the subsequent sections, this paper will explore the Human-AI collaboration on creative domains like education, art, poetry, writing and some genetic collaborations. The nature of AI involvement differs from field to field. In poetry and art, AI can be a good source of augmentation and help in enhancing the style of a human, whereas in something like writing, AI can work as a pure tool for paraphrasing and filling up. All these are explored in the paper based on the field.

## II. FACTORS EFFECTING HUMAN-AI COLLABORATION

**Trust and Reliability:** Trust and reliability are critical additives of human-AI collaboration, impacting interaction

dynamics and preference-making. Establishing believe amongst humans and AI structures is critical to encourage effective collaboration because it gives customers self guarantee within the gadget's skills and intentions. Reliability, however, guarantees that AI structures carry out continuously, building consider over the years via supplying accurate and sincere consequences. Trust and reliability paintings collectively to construct powerful partnerships that sell mutual understanding, cooperation, and a success integration of AI technology into several areas of human interest .

**Communication and Feedback:** Two-way communication channels enable the transmission of data, thoughts, and expectations from human to AI or AI to human. Through this approach there may be coordination or alignment of targets and easy communication. This, furthermore, is viable because of the presence of effective feedback loops that give both aspects a danger to talk about, evaluate, accurate and to adjust facts presenting powerful collaboration ultimately. Human-AI teams can acquire this objective with the aid of verbal exchange and remarks. This helps remedy the troubles of comprehensibility, proactively resolve springing up problems, and work out the details of interactive consequences in numerous creative fields and obligations.

**Cognitive Load and Mental Models:** A human and AI team could also take advantage of the understanding of cognitive load, which refers to the amount and difficulty of information being processed, in both human and AI workforces. By shifting the work tasks so that more efficient tasks are performed by low cognitive load units and less efficient tasks are handled by high cognitive load units, higher performance is reached for humans as well as AI. Through improved matching of human and AI cognitive models, one can predict better precision, reduced risks, and faster decision-making under pressure. This sort of coordination will minimize friction between people and machines, thus making collaboration more natural, dependable, and effective.

**Ethical and Societal Considerations:** These ethical and societal questions are foremost in so far as the ethics and societal impact of human-AI collaboration is based primarily on how the impact on the individuals and communities interacting with the AI is shaped. Also, one of the priorities must be to ensure equality, non-discrimination and transparency in AI algorithms and the decision-making frameworks in order to avoid biased and discriminatory outcomes emerging as a result. Besides this, understanding how to manage issues such as displacement of workers, invasion of privacy and growing digital divide - all important issues where trust and inclusion can be eroded when AI technologies are utilised - are crucial to a sustainable use of AI. One way to ensure the potential of AI is used while avoiding infringement on fundamental human rights and societal resilience is to find the right and necessary balance between innovation and ethical accountability.

**Feedback and Iterative Improvement:** It is significant because it guarantees the success of product design. Users can provide feedback regarding what they like and dislike, which can help to improve both systems and processes. Iterative loops in human-AI collaboration accomplish this, implying that AI systems will eventually be able to retain the most effective operational aspects from previous versions while auto-tuning to new user requirements and tastes. Even AI systems have the ability to provide feedback to humans. In general, feedback loops demonstrate how the combination of humans and AI can produce excellent results.

### III. BACKGROUND STUDY

Artificial Intelligence has been the talk of the town for the past few years for being an augment in scientific and academic fields, how does it fair when it comes to creative domains? In this study we aim to provide a consolidated view on human collaboration with AI on a set of diverse creative fields. In this paper, We have opted for a literature survey on 30+ papers as our main mode of data collection. The number of papers may seem less but the diversity with respect to the creative fields they belong to has been kept in mind while identifying them. We showcase the results of our analysis in AI's compatibility with various creative field such as art, poetry, writing, education and so on..

Common challenges we have observed when implementing AI, we tend to face some ambiguity that include ethical concerns regarding the use of AI and its nature, Ownership ambiguities (Does AI own the work it did? Or do humans own it because AI is based on human knowledge and experience?) and technical limitations. when people manage to overcome these challenges and work with AI. It is observed that the over all user perceptions was positive to Human-AI generated art as long it stuck more to its human part. Studies on AI show that it is a great tool that helps decrease the overall time taken to make something, but it comes with concerns of humans becoming over-dependent on AI and losing their creative touch. All these studies collectively point towards one common thing, Collaboration with AI in any field is going to the future and addressing the ethical concerns, improving the way we interact with AI and Acknowledging the nuances of each field will be key factor in making it better.

### IV. METHODOLOGY

#### 1) Data Collection:

- We carried out literature reviews in well-known databases and scrapped the scope of the current literature concerning Artificial Intelligence in Creative projects.
- Search Sources: For this review, the databases consulted were SCOPUS and Google Scholar. Additionally, references from the incorporated studies were investigated to uncover more relevant results.

- Search Eligibility Criteria: Incorporated in this article are all studies that discuss AI-human collaboration. We do confine our search to a few articles. Exclusions were made if the studies didn't adhere to the primary focus and those that were not related to creative fields.

## 2) Assessment Criteria:

- Efficiency of AI Tools: Examining the impact of AI tools in different kinds of creative pursuits, like writing, poetry, art, and filmmaking
- User Perception and Interaction: Evaluate how users, interpret and interact with AI Tools when they work with people on creative endeavors.
- Effect on Creativity: Examine the way in which AI may improve the efficiency and overall creativity of a Project.
- Ethical Considerations: In this section, we discuss the moral conundrums and worries arising from AI's application in creative Projects, such as dependency, bias, and transparency.

## V. AI-HUMAN COLLABORATION IN POETRY AND ART

### A. Analysis of related Papers

Revell et al.[3]'s "Madeleine: Poetry and Art of an Artificial Intelligence" explores how AI is affecting poetry and art, specifically looking at how human and machine creativity are merging. The project addresses issues with appearance, trust, and the emergence of feminized avatars, highlighting the difficulties associated with cognitive and intelligence boundaries. The research highlights subjective human responses and components like surprise and curiosity by examining AI-generated creativity and presenting lateral and unexpected results in both text and images. Benefits include expanding definitions of intelligence and proving AI can comprehend natural language; however, drawbacks like limited memory and inaccuracies highlight the need for more research on re-entering AI-generated results into learning datasets.

Hitusuwati et al. [4]'s study shed some more light on this context by examining the aesthetics of AI-generated Haiku and comparing and contrasting the differences when a human is involved vs. when humans are not involved. The results, Although participants had a hard time differentiating between a human generated Haiku vs an AI-generated one, The Haiku with a human's creative involvement scored more on the beauty scale. This is one piece of evidence to say that Revell [3]'s point about AI understanding natural language. A more fascinating viewpoint can be drawn, Human AI creations actually increased the creative output of the project and overall quality of haikus. But because of algorithm aversion, the study also raises questions about AI's tendency to be based and in this, the legal and moral implications of mistaking AI-generated Haiku for Human-generated Haiku. This points out and adds to the need for research on AI in art.

For a more cutting-edge example of AI's impact on creative endeavors, Purnas et al. [2]'s article showcasing the

capabilities of Sonic Alchemist, which helps in addressing the creative stagnation when it comes to sound design in media. It was noticed that Sonic Alchemist's outputs had the ability to stimulate original thought and, as a result, revolutionized the entire sound design industry. Another perspective is given by Arias-Rosales et al.[5], suggesting that tools like Shapi are a great boon to humans in the design phase, demonstrating very positive outputs. These positive outputs are direct reflections of AI's ability to improve and simplify creative processes and provide more insight into the way AI is changing the fields of poetry and art.

*B. Midjourney is an AI program that uses prompts to create images, showcasing AI-human collaboration in poetry and art.*

The 2022 Colorado State Fair's digital art category featured a piece by Midjourney named Théâtre D'opéra Spatial, which took first prize. Jason Allen, the author of the prompt that caused Midjourney to create the artwork, printed the result onto a canvas and used Midjourney to enter it into the competition under the name Jason M. Allen. The announcement outraged other digital artists. Allen insisted he adhered to the competition's regulations and had no regrets. The two category judges later said that they would have given Allen the top prize even if they had known that Midjourney used artificial intelligence (AI) to create graphics.[6]

### C. AI poetry

According to Vincent[7]'s article on the Verge, In 2019, Google Arts & Culture worked with artist Es Devlin and developer Ross Goodwin to create "PoemPortraits". This project uses artificial intelligence to construct unique poetry based on user input, resulting in a collaborative experience in which users contributed words that inspired an algorithm to generate a personalized poem.

Poetweet is a Brazilian project that lets users turn their tweets into poetry. While the initiative began as an AI-driven process, it grew to include human interaction, allowing users to curate and enhance the generated poems[8].

The paper by Karaban et al. [9] explores the swiftly converting field of device translation, paying unique attention to the hard trouble of interpreting poetry. It evaluates the conformity of AI-pushed and human-produced translations to poetic standards, linguistic nuances, and cultural sensitivity. The observe demonstrates AI's stunning improvements in maintaining poetic shape and depth thru methodical evaluation, even whilst troubles with meter, rhyme, and cultural contexts nonetheless need to be addressed. Although AI systems are dependable and professional in a few regions, human translators are better at decoding cultural quirks and contextual intricacies, which increases questions on in which AI-pushed literary translation methods would possibly nonetheless be advanced.

#### *D. The end of creativity?*

These tools are helpful, but they don't take the place of a designer's imagination and expertise; only deliberate application achieves the desired result. Because the old adage "beauty is in the eye of the beholder" is no longer acceptable when discussing commercial design. Because Midjourney may offer motivational and directive input for our UXi process at this stage, using it enhances our day-to-day operations. The question arises whether these tools truly end human creativity or if we should consider the broader context, where they enhance visual presentation of ideas and thoughts.

### **VI. IMPROVING EDUCATION WITH AI**

#### *A. Analysis of related Papers*

Antonio et al., [10] have written this study to address the challenge of introducing Artificial Intelligence (AI) systems into the early stages of the design process and exploring the perceptions of design students regarding the collaboration between humans and AI. The focus is on understanding both technical and sensitive criticalities that may arise in human-AI collaborations during the design process. Through their simulations they highlighted the potential benefits of practical training to enhance students' awareness and ability to collaborate with ai systems and shed light on design students' attitudes and perceptions regarding the integration of AI tools in the early stages of the design process. But the work lacks any details about specific AI algorithms or tools used in the study, limiting a detailed understanding of the technical aspects. In order to address the dearth of solid information

about the impacts of Student-AI Collaboration (SAC), this research of Kim et al. [11] examines the influence of SAC on a public advertisement sketching job. Depending on students' views about AI and drawing proficiency, SAC has varying effects on creativity, expressivity, and public utility. The paper highlights AI as flexible scaffolding that adjusts assistance based on user requirements. Although the small sample size of 20 students aids in the comprehension of the benefits of SAC, generalizability issues are raised. The study recommends that future research examine SAC in a variety of learning tasks using various AI kinds and take group-level cooperation into account.

In comparison to conventional self-directed approaches, the effectiveness of incorporating ChatGPT into programming education is examined in a study carried out by Dan Sun et al. [12]. They compare the conventional self-directed programming (SDP) mode with ChatGPT-facilitated programming (CFP) mode using a quasi-experimental methodology. The main artificial intelligence tool for students is ChatGPT. Students use programming environments such as Python's IDLE or Jupyter Notebook. The results provide insight into the effects of ChatGPT on students' perceptions and learning experiences by revealing notable behavioral and performance disparities

between the CFP and SDP modes. Although ChatGPT provides benefits like tailored support and organic communication, there are worries about possible over-dependence and unpredictability in its replies. To learn more about ChatGPT's function in programming education, future research directions might look into longitudinal studies and various integration approaches.

The purpose of the research project is to investigate how using the generative artificial intelligence (AI) ChatGPT-3 in a classroom setting affects students' capacity for divergent thought (Habib et al., [13]). They test students' flexibility, fluency, elaboration, and originality using a mixed methods approach, utilizing both qualitative and quantitative data obtained through an Alternative Uses Test (AUT) in a college-level creative course. Although ChatGPT-3 can improve the fluency and elaboration of divergent thinking, there are issues with over-reliance as well as restrictions on creativity and adaptability. Notwithstanding its advantages, there are many drawbacks, including moral dilemmas and the requirement for more study to extrapolate results to other educational settings.

#### *B. Language Translation*

The Use of Language Translation to Enhance Teaching:

By putting off linguistic obstacles and facilitating communication between students and instructors who speak different languages, artificial intelligence (AI)-powered language translation generation holds super capacity to improve training. This technology improves accessibility and inclusivity in numerous getting to know contexts through allowing real-time translation of instructional substances, commands, and communication in a seamless way.

Example: One tremendous example of language translation implementation for improving schooling is Google Translate which includes artificial intelligence (AI), specially neural device translation (NMT). NMT is a type of AI that uses deep mastering algorithms to improve the first-class and accuracy of translations. Google Translate transitioned from older statistical gadget translation techniques to NMT in 2016, appreciably enhancing its translation skills. NMT fashions are skilled on huge amounts of multilingual information, allowing them to study complex patterns and relationships between languages. This allows Google Translate to produce more natural and fluent translations by way of considering context, syntax, and semantics. Additionally, Google continuously updates and refines its AI fashions to improve translation pleasant over the years.. Google Translate offers a huge variety of functions, consisting of textual content translation, speech translation, or even photograph translation the use of neural gadget translation technology. In academic settings, Google Translate can be applied to translate textbooks, educational substances, and lecture room discussions into more than one languages, allowing students who are non-local speakers of the language of practise to higher recognize the content material. Moreover, educators can use Google Translate to speak with students and dad and mom who talk distinct languages, making sure

powerful conversation and parental involvement inside the educational manner.

By leveraging language translation era like Google Translate, educational establishments can create more inclusive and accessible studying environments wherein language limitations now not prevent students' get entry to to first-class education. However, it's essential to well known the restrictions of gadget translation, together with inaccuracies and nuances misplaced in translation, and to use those gear as supplementary aids instead of replacements for human language preparation and support. Further research and development in language translation technology are needed to address those challenges and maximize its potential effect on schooling.

## VII. AI IN ENTERTAINMENT?

### A. Analysis of related Papers

Today's entertainment Industry is all about AI, Generating visual effects for Hollywood movies, games and design inputs in sound design and so many more examples where AI has already made it's mark. This a topic of growing interest, with studies like Ashktorab et al.[14], Vinchon et al. [15] and Laird and van Lent [16] shedding some much needed light on various aspects of Human-AI interactions. These studies provide nuances perceptions that users tend to have towards AI algorithms. They also highlight the potential biases that AI can show as a result of its source(which is Humans). These biases may effect user experience and addressing them in future researches is very important.

Ashktorab et al.[14]'s study for example, show that the participants generally view human partners as smarter, more creative/imaginative and more likeable than AI companions in collaborative contexts. Though the results of this study did not show significant differences based on social judgements, The AI agent's confidence levels did have an effect. This undermines the idea of transparent AI algorithms, as user perceptions and experiences are being influenced by AI.

Similarly, Vinchon et al.'s[15] shows user perceptions in a word guessing game. They found that participants preferred human teammates rather AI companions, the reasons stated for this are that humans are more charming clever and creative. However, there was not a big difference in collaboration results.

Laird and van Lent's [16] paper on the potential of interactive computer games for achieving incremental progress in human-level AI also provides insights into AI's creative impact on the entertainment industry. It states that computer games offer challenging environments for tackling isolated AI research problems and can provide continual, advancing, and realistic settings for AI researchers. This approach allows for addressing challenging AI problems incrementally in evolving domains, which aligns with the interactive nature of game development and the entertainment industry's focus on innovation and creativity.

Using a word guessing game, this study of Ashktorab et al. [14] investigates user perceptions in collaborative con-

texts using AI. In comparison to AI companions, participants thought human partners were smarter, more imaginative, and more likeable. The results of collaboration indicated no discernible influence, despite variations in social perception. Positive social judgments were impacted by the AI agent's confidence levels, highlighting the need of transparency. Nevertheless, there is no investigation of potential cultural biases in the study. Future study must address biases and improve algorithmic transparency in light of the negative association. The results highlight how important user experience is to AI collaboration.

These studies highlight the complex interactions between AI, user perceptions, and collaboration results in the entertainment industry. They underscore the importance of transparency in AI algorithms, the impact of confidence levels on user comfort with AI partners, and the potential of interactive computer games for advancing human-level AI. Addressing biases and improving algorithmic transparency are essential for enhancing user experiences and realizing AI's creative potential in entertainment. Apart the above mentioned studies which highlight the complex interactions that humans tend to have with AI, There are currently few real applications of AI that manage to aid in a very big manner to the process of producing a big budget Hollywood project.

### B. Current state of AI in Filmmaking

Elias [17] states that Hollywood has always been a shining example of innovation at the center of the entertainment industry, pushing the frontiers of sound design, visual effects, and storytelling. But the most recent revolution in Hollywood is about the incorporation of AI, not only about star-studded casts or avant-garde photography. Every aspect of the business is changing as a result of this technological revolution, from video editing to writing engaging video scripts.

Artificial intelligence (AI) techniques that improve the generation of video material are streamlining the post-production process, which was formerly a labor-intensive task. Artificial intelligence is proven to be a very useful tool in a variety of fields, including advanced sound mixing, film editing, and sound editing. However, it goes beyond simply improving what currently exists. The fundamentals of technology in film-making are being revolutionized by artificial intelligence (AI), which is bringing completely new capabilities like digital aging and voice cloning.

We'll examine the various ways AI technologies are paving the way for a new Hollywood, where machine learning and human creativity collide and the possibilities are genuinely endless, as we dig deeper into this revolutionary period.

1) *Video Editing and Post-Production:* Nowadays almost all movies tend to involve some post production work . This stage involves transforming unfinished footage into a complete and good story and crafting sounds and images to convey certain feelings. Hollywood's adoption of AI is causing a significant shift in this the post production phase of

a movie. Modern video editing involves more than just cutting and splicing. Nowadays, AI can automatically scan films, identify crucial areas, and even offer changes to the scene that may improve its quality. This ensures an unprecedented degree of precision while also improving the post-production procedure. AI is transforming post-production aspects like as color grading, noise reduction, and the incorporation of complex visual effects. Utilizing AI, tools like Topaz Labs' video upscaling enhance video quality by bringing out the sharpness and color vibrancy in each frame. In terms of audio, Izotope's Neutron program uses AI to do audio mixing, making sure the music matches the images appropriately.

2) *Digital Re-Aging*: One of the most innovative AI technologies revolutionizing Hollywood is digital aging technology. This cutting-edge innovation not only has the ability to make seasoned actors seem decades younger, but it's also creating storytelling opportunities that were previously unthinkable.

For instance, lengthy de-aging procedures were employed in Martin Scorsese's "The Irishman" to allow Joe Pesci, Al Pacino, and Robert De Niro to portray their characters at different stages of life. The Industrial Light and Magic system used machine learning and visual effects to achieve this. In a similar vein, the movie "Gemini Man" saw Will Smith's younger self facing out against his older self thanks to technological advancements in re-aging. Re-aging has applications beyond



Fig. 1. Robert De Niro – The Irishman (2019)

aesthetics; it might even revive famous actors who are no longer with us. Businesses such as Respeecher are developing vocal cloning technology that, when paired with age-reversing visual effects, may enable actors who have passed away to give whole fresh performances.

In Hollywood, de-aging is nothing new. Numerous performers have experienced the procedure. The method is now much improved by AI, which is the difference.

- Brad Pitt – The Curious Case of Benjamin Button (2008)
- Samuel L Jackson – Captain Marvel (2018)
- Jeff Bridges – Tron: Legacy (2010)
- Robert Downey Jr – Captain America: Civil War (2016)
- Robert De Niro – The Irishman (2019)
- Will Smith – Gemini Man (2019)

- Stephen Lang – Avatar: The Way of Water (2022)

Digital re-aging is expected to challenge our understanding of time, age, and the very essence of storytelling itself as it develops, adding hitherto unheard-of levels of intricacy to the craft of filmmaking.

3) *VFX and Animation*: The fields of animation and visual effects have long been good examples of the marriage of creativity and technology. Hollywood's use of AI brings this combination to light and broadens the possibilities for what might be accomplished on screen. Previously arduous processes like rotoscoping have been made simpler by AI approaches like Runway. Artists may emphasize the more intricate and creative parts of film editing by automating these processes.

In addition to simplifying tasks, artificial intelligence is enhancing scene quality. It can easily make improvements like color corrections and noise reductions after closely examining a photo, which improves the image's visual narrative. This improves the quality of the finished output and streamlines the post-production process.

It's clear how AI has affected animation. Character motions and voiceover lip-syncing are only two examples of how everything is becoming better. Developments in speech synthesis and cloning bring in a new era of efficiency, allowing animated figures to have conversations.

Furthermore, AI is at the point where it can mostly produce short animations. For example, AI is used to build the backgrounds for the short animation "The Dog and the Boy," [18], which made its premiere on Netflix Japan earlier this year. Ryotaro Makihara directed the animation, which Netflix claims "used AI image generators for the background images to help the anime industry, which has a labor shortage." (Confirmed)

4) *The Future of Filmmaking*: It seems certain that AI tools will continue to change the film business in the future. There is no denying the efficiency increases; jobs that used to take hours may now be finished in a fraction of the time, which results in huge cost savings. But AI is giving birth to new forms of artistic expression and cost/time-saving measures. With technologies that help with everything from post-production to scriptwriting, filmmakers can concentrate more on the creative aspects of their work.

However, the value of cross-training cannot be emphasized as AI tools are being used in all areas of the film industry. Anyone working in the film industry, from producers and directors to editors and sound engineers, will need to understand the strengths and weaknesses of these AI tools.

Hollywood's adoption of AI is more than just a fad; it's a complete shift that is changing the industry from its roots. These instruments do not replace human creativity and inventiveness, even though they are very efficient and create new creative opportunities. It's critical to strike a balance as we enter this new chapter of Hollywood 2.0— with evolving technological breakthroughs while holding onto the aspects of

human creativity that give movies their emotional depth with the audience.

#### 5) Findings:

- Effectiveness of AI Tools: Artificial intelligence (AI) applications in the film industry have been shown to improve overall output, post-production process, and decrease total workload. They are very useful additions.
- User Perception and Interaction: Companions made of artificial intelligence do not have the charm, creativity, and likeability of their human counterparts. This is why while working on creative projects, individuals prefer to work with humans rather than AI ones.
- Impact on Creativity: It is still reasonable to have concerns about how technology can undermine artistic originality and replace the human touch, especially since AI can perform creative tasks like animation and digital aging.
- Ethical Considerations: It's important to consider biases in AI algorithms, preserving transparency and safeguarding the integrity of creative endeavors when utilizing AI tools in the film industry.

### VIII. BETTER WRITING WITH AI

#### A. Analysis of related Papers

fang et al., [19] addresses the lack of an in-depth review in the recent past on using AI in story-writing within the context of language education. Through their research and simulations, they saw that Human-AI collaboration can effectively improve the overall story by increasing the depth in terms of the character motivations and satisfactions. But the paper lacks comprehensive details on the specific AI algorithms or models used in the study which limits the insights when it come to the technical aspects. Salvagno et al., [20] explore the integration of AI chatbots, particularly ChatGPT, in scientific writing. Advantages include enhanced writing assistance, improved efficiency, and potential time-saving benefits. However, concerns arise about dependency risks, emphasizing the urgency for international regulations to ensure ethical and responsible AI use.

In "How to Cheat on Your Final Paper: Assigning AI for Student Writing," Fyfe [21] explores the integration of AI, specifically GPT-2, into student writing prompts, raising ethical dilemmas. Concerns center around plagiarism, AI assistance conditions, and the overall impact on writing originality and creativity. Results show that students perceived using GPT-2 as more challenging than expected, particularly for longer genres where it struggled with logical perspective. The need for manual guidance challenged the main characteristic of AI as an automated writer. Despite its capacity for fabrication, GPT-2's potential spread of misinformation and biases raised significant concerns. This study highlights the complex dynamics and ethical considerations surrounding AI's role in student writing.

Maiden et al., [22] have written this study to address the limited uptake of digital creativity support tools in professional work contexts, particularly in solving complex problems. The focus is on the challenge posed by machine intelligence and the potential hindrance of co-creative AI tools in professional environments. The work is simulated using a co-creative AI tool named Sport Sparks which was applied in the context of coaching professional football players, providing coaches with creative solutions to coaching challenges. Through their simulations they observed that the Sport Sparks tool demonstrated potential in generating novel ideas for coaching challenges, fostering creative thinking among coaching practitioners. But the lack of inadequate technical data about this field suggests that there is need for additional research to support the other stages of creative problem-solving, such as evaluating ideas and sharing ideas with the AI tool in question.

#### B. WriterHand AI: Real world example of Creative writing with AI

Artificial intelligence (AI) has grown tremendously in the past few years and is making its way more and more into our everyday lives. Artificial intelligence (AI) has advanced significantly in the last several years and is now progressively incorporated into our daily lives. We'll use the artificial intelligence story generator "Writerhand" as an illustration. Its innovative and astute design offers excellent text generation without requiring registration or placing limitations on daily use. All you have to do is type a command, and the AI will produce the desired text<sup>1</sup>. Therefore, the emphasis is on providing helpful writing assistance, even though the specific model details are kept confidential.

1) *How does it work?:* The AI is equipped with a massive database of information and patterns that the AI system analyzes. The system then generates a unique story based on this analysis. The AI story generators use complicated algorithms that can make different versions of stories that make sense, are interesting, and keep you interested. Writerhand AI Text Generator utilizes its own proprietary AI model, and it doesn't explicitly mention a specific pre-trained model like GPT-3 or GPT-4.

2) *How Does AI Boost Creativity?:* AI story generators can be a powerful tool to boost creativity, as they allow users to generate unique story ideas and plotlines quickly and effortlessly. By handling the time-consuming tasks of brainstorming and planning, AI-powered tools enable writers to concentrate on creating fascinating characters and sophisticated plots. With the help of AI, creators can try out new ways of telling stories and different genres, which will lead to more creative and unique works in the end. AI plot generators are not only a fun tool to explore your imagination, but also a wonderful resource for people who are experiencing writer's block or need inspiration. By giving unique story ideas, the AI could help writers get out of their comfort zones and try out new ideas and genres. Brainstorming is an important part of being creative because it helps people come up with ideas and



solutions to problems. It can be challenging to come up with fresh and unique ideas, especially when working on a tight deadline. This is where AI story generators can be of great help in improving your brainstorming.

3) *Example of a story generated by WriterHand::* The prompt given was: "a superhero story about a guy with frog powers". The Story: *"Meet Jake, a seemingly ordinary guy, with an extraordinary secret. Jake had always been different from others, but he never knew why. That is, until one fateful night. It was a dark and stormy night, the kind of night where strange things happen. Jake was walking home from work when he suddenly felt a strong surge of energy course through him, causing his body to shake and tremble. Before he knew it, his clothes began to rip and tear, revealing a skin that was now green and slimy. As the transformation took over, he could feel his bones and muscles shifting and changing. Within minutes, Jake had turned into a half-man, half-frog creature, with the ability to leap great distances and stick to walls like a frog. At first, Jake was terrified. He didn't know what was happening to him or how to control his new abilities. But soon, he came to realize that he was not just an ordinary man anymore."*

## IX. DISCUSSION

The findings of this analysis shed some much needed light on how AI is changing the way we approach creative endeavours. AI tools are proving to be a very reliable augment to the human creative mind. They can impact creative output in a positive manner, make tedious and long workflows more efficient, and even open up newer ways of artistic expression. The nature of the partnership between AI and humans on creative projects is still in its infancy and is the main point of discussion. Despite their ability to enhance the results of a creative project, AI algorithms have the capability to replace humans in a few places and even destroy creative integrity and authenticity. This is one of the main reasons why humans prefer human collaborators over creative AI partners. Which begs the question: the place of AI-human creative partnerships and the preservation of the human touch in creative endeavors.

Furthermore, keeping in mind the ethical considerations while using AI tools is very important. AI-generated content and its effects on creativity and originality can become very significant if not used properly. Plagiarism and wrong information is often a trait of AI generated content and this tends to impact the authenticity and integrity of creative projects. Strict and precise rules with a strong moral framework is the only way to ensure responsible use of AI tools and reducing risk. The use of AI will only go up from here on out as it will take up a major role in content creation.

The discussion also touches on the more general implications of AI in creative fields, such as its effect on best practices in already matured industries, job roles and how the public perceives creative projects like movies and poetry. As we have discussed previously, AI tools help the overall productivity and efficiency but can also make few skills obsolete which can cause job displacement and affect real human lives. Additionally, Using an AI algorithm for intensive purposes like vfx

and filmmaking can require expensive hardware. Addressing the fair distribution of AI benefits among all socioeconomic groups is equally important.

## X. CONCLUSION

To conclude, utilization of AI in a collaborative form in the creative industry, particularly, poetry, art, filmmaking, writing, education, etc, has proven to be a perfect use of the technology. To this extent, the creative process has been enhanced and made more imaginative, productive and innovative. Yet these ethical tensions and doubts around the truly

transformative human-AI relationship open up some difficult questions: Adopting a singular focus that concentrates on the content being generated by AI raises other troublesome ethical predicaments. For starters, we need to devise appropriate ways to address plagiarism. In the age of machine-assisted writing, how can we differentiate 'cheating' from creative expression - from, in fact, a different mode of authorship altogether? Misinformation is another thorny ethical problem, as AI-generated text increases exponentially. And what if, in developing sophisticated writers, AI software undermines artistic expression per se? The future is not - and never has been - ours to control.

Moreover, we want to avoid art that exclusively relies on an AI, where it simply replaces human creativity altogether, leaving no meaning or artistic agency for the human behind the code. So, these are some tentative ideas about the idea that 'art is whatever the artist says it is', but what else can we do? First of all, it's possibly a problem approach by posing a question at all; perhaps, instead, it is at times a definitive statement. Perhaps, the lack of a substantive criterion for art is the precise point being expressed with such intensity. Ultimately, defining criteria for art frequently focuses on the intentions of the agent behind the art.

To make sure AI is used responsibly in the future, there is a need to define ethical, fair use before problems start occurring, and to manage what have been called - with some fear - the inevitable displacements caused by automation. Such issues include the displacement of human labour through automation, the fear of which is high on the political and self-help agenda, the obsolescing of skills, and equity in access to the fruits of creativity. Could increasing automation and reliance on smart cities make our lives brittle? Above all, how will power and wealth be shared in the creative economy of the future? The problem is one of the classic ideas of economics: who gets what; and, what happens if you need to adapt to new realities. What are the back-up and exit strategies?

Ultimately, the integrating of AI into creative domains is a paradigm shift, with opportunities and pitfalls. If we address them with thoughtfulness, we can incorporate AI into creative pursuits to increase creativity, innovation and human expression in the digital age.



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