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Human Vs Machine: Evaluating AI-Generated Scripts and Creative Storytelling

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Abstract: *The art of scriptwriting has long been regarded as a domain of storytelling skills and creativity. It has been evolving along with advancements in storytelling mediums such as theater, film, and television. In the digital age, technological innovations like editing software and collaborative platforms have contributed to assisting in improving efficiency of the process of scriptwriting. However, none has been as huge an impact as Artificial Intelligence (AI) in streamlining the craft. AI has begun influencing scriptwriting by automating repetitive tasks, generating creative ideas, and even drafting entire scripts. This paper explores how these changes impact the craft of scriptwriting and stories. The paper proposes to survey available literature on case studies of AI-generated scripts. The paper also analyzes AI's 'creativity' by evaluating scripts created by ChatGPT by inputting prompts into the AI program. It attempts to understand the nature of AI involvement in the processes of scriptwriting and its implications.*

I. INTRODUCTION

Scriptwriting is the process of writing down scenes, actions, expressions, movements and dialogues of characters for a live or recorded programme. It includes writing for stage plays, films, talk shows, and video games etc. A script is a detailed outline used to guide a performance. Scriptwriting is the foundation for storytelling and production. It is becoming a much sought after skill with the increasing demand for content delivery services like podcasts and OTT platforms.

II. THE CONTEXT

In an increasingly fast-paced world, the potential for AI to simulate processes of human intelligence is being applied in every field imaginable. Virtual assistants, image recognition, automated personal reminders and recommendations have all become a part of our daily lives as they mean saving time and manual effort, and improved efficiency.

The use of natural language Processing (NLP) to create conversational dialogues akin to humans enables generative AI models like ChatGPT to compose essays and content for social media posts, and write codes. It can respond to questions and hold a fairly good conversation. This aspect also allows its application in producing creative content like scripts in different screenplay formats. However, the use of AI in creative writing is a much-debated topic. While it reduces repetitive work and saves time, it raises questions of authorship, authenticity and ethical issues.

The paper examines how AI has influenced scriptwriting processes, and what implications it has on creative storytelling. It will try to answer whether AI will redefine the role of the scriptwriter or whether it has the capability to replace the writer. The paper also analyses scriptwriting of speculative experimental pieces by AI.

The researcher input prompts into ChatGPT-4 of Open AI to create scripts based on a children's short story written by her and also a famous poem for a stage-play and an animated screenplay version for television. Other prompts input into ChatGPT-4 were to write scripts for Robert Frost's iconic, *The Road not Taken* as a stage play and as a play for television. The results provided a basis for comparing human creativity with AI generated content. The examples demonstrate whether AI generates plausible characters, has all the elements of storylines with emotional engagement, character depth and plot structure. Also, a survey of case studies of the use of AI by different mediums for scriptwriting provides a perspective on the prospects and limitations of AI in the creative field.

III. HISTORICAL OVERVIEW

The craft of scriptwriting in its earliest forms relied on manual processes, where the writer's intuition and experience dictated creativity and format. From play scripts in ancient classical theatre to the meticulously crafted dialogues of Elizabethan plays, to the works of 19th century professional playwrights, storytelling has always been based on human expression. The early 20th century saw the rise of screenwriting as a profession, driven by the demands of the film industry. This era saw the use of pen and paper, typewriters, and index cards for organizing plots and characters.

The introduction of personal computers and word processors revolutionized scriptwriting in the late 20th century. Screenwriting software's like Final Draft and Celtx, which significantly reduced the mechanical burden of scriptwriting became essential tools. These offered features such as automatic formatting and editing. These tools significantly reduced the burden of scriptwriting. Writers could now focus more on creativity. However, these technologies could only assist writers, requiring human input for every aspect of the creative process.

IV. EMERGENCE OF AI IN CREATIVE WRITING

AI forayed into scriptwriting with experiments in natural language processing (NLP) and machine learning. Early efforts included processes that could analyze existing scripts to identify patterns in plot structures and character patterns. Over time, technology evolved to generate original content, leading to tools like OpenAI's GPT models and Sudowrite. These systems can now draft scenes, suggest dialogues, and even write entire scripts, marking a significant shift in how stories are created.

Experimenting scriptwriting with AI

As mentioned earlier, the paper analyzes scripts by ChatGPT-4 for a stage play and an animated television play adapted from a short story.

Sample results for the stage play:

Characters:

- Ganesha: The elephant-headed god
- Mooshak: A clever and caring mouse

[Scene 1: Ganesha's Room]

(Soft morning light streams into the room. Ganesha is lying in bed, wrapped in a blanket. Mooshak scurries in.)

Ganesha: (grumpy, pulling the blanket over his head) I don't want to go to school today, Mooshak. School is boring, and I'd rather stay home and play.

Mooshak: (climbing onto the bed) Oh, Ganesha, school can be fun! Remember how much you love to draw and paint? Today, we might have an art class!

Sample results for animated TV version:

[Scene 1:Ganesha'sRoom]

(Camera opens with sunlight streaming into a cozy room. Ganesha is curled up in a bright, patchwork blanket. A gentle breeze moves the curtains.)

SFX: Birds chirping, distant temple bells ring.

Ganesha: (groans, pulling the blanket over his head) I don't want to go to school today, Mooshak. School is boring!

(The camera shifts to the floor, where Mooshak is trying to climb the bed. He tumbles backward with a squeak, then hops back up energetically.)

Mooshak: (cheerfully) Boring? Ganesha, you love painting! Today's art class might have elephants as the theme!

It is observed that ChatGPT has made the script more visually engaging and entertaining for an animated audience. It has not only given detailed descriptions with settings, dialogues and directions, but also adjusted the structure and detail for the animated TV version. It included precise descriptions of facial expressions, movements and settings for instance, "colourful bed covered with the patchwork quilt" or "his trunk curls up as he frowns, his ears drooping". It has included sound effects (SFX), background music, punchier dialogues and details like, "camera pans from the bed to window" or "the camera shifts to the floor".

On prompting ChatGPT to adapt Robert Frost's *The Road Not Taken* into a play, for the stage as well as for television, the results were:

Title: *The Road Not Taken: A Play*

Characters:

1. **The Traveler:** A reflective individual navigating life's choices.
2. **TheGuide:** A mysterious figure offering insights and guidance.
3. **Future Self:** An older version of the Traveler who reflects on past decisions.
4. **Passersby:** Various individuals representing societal pressures and alternate perspectives.

Setting:

A mystical forest with two distinct paths: one well-trodden and the other overgrown and inviting mystery. The setting is abstract, with lighting and sounds that shift to reflect the Traveler's internal conflict.

Act 1: *The Fork in the Road*

Scene 1: The Traveler enters a forest. The stage is illuminated with golden hues, signifying autumn. Two paths are revealed, and the Traveler pauses, contemplating.

Scene 2: The Guide appears, cryptically describing the paths. "One is known to many; the other whispers secrets unknown." The Guide leaves, urging the Traveler to decide.

Scene 3: The Traveler observes other Passersby choosing the well-trodden path. Their conversations hint at safety and conformity.

When prompted for adaptation of *The Road Not Taken* into a **TV script**, ChatGPT described that it was generating a script structured to fit a 30-minute episode. The sample outcome up to Act I was:

Title: *The Road Not Taken: A Journey*

FORMAT:

Genre: Drama / Fantasy

Episode Length: ~30 minutes

Tone: Reflective, mysterious, and visually evocative

CHARACTERS:

1. **Traveler (Protagonist):** A modern individual facing a life-altering decision.
2. **The Guide:** A mysterious figure, enigmatic yet wise.
3. **Future Self:** A shadowy figure that embodies the Traveler's reflections.
4. **Passersby:** Represent societal norms, peer pressure, and alternate choices.

SETTING:

A visually surreal forest with vibrant golden leaves, shrouded in mist. Two divergent paths symbolize life's choices. The forest is alive, reacting to the Traveler's emotions and decisions.

SCRIPT OUTLINE:

Opening Scene

[Montage]

Golden sunlight filters through a dense forest. The camera pans slowly to reveal two paths diverging in a wood. The sound of crunching leaves underfoot signals the arrival of the Traveler.

VOICEOVER (Traveler):

"Life is full of choices. Some clear, others clouded in doubt. And yet, at the heart of every decision lies the question—what if?"

[The Traveler appears, looking contemplative. They (sic) glance between the two paths, visibly torn.]

Act 1: The Fork in the Road

Scene 1:

- The Traveler explores the area, observing both paths. One is wide and well-worn; the other is overgrown with vines and barely visible.
- They crouch to inspect a footprint on the well-trodden path, hearing distant voices of Passersby.

PASSERSBY (O.S.):

"This is the way everyone takes. It's safe, predictable. Join us!"

- The Traveler hesitates, hearing whispers from the overgrown path.

VOICE (Guide) (O.S., haunting):

"Not all who wander are lost. But some must choose to wander."

Scene 2:

- The Guide appears, dressed in an ethereal, timeless outfit. They (sic) offer cryptic advice about the paths.

GUIDE:

"One road is easy; the other is yours. But neither comes without cost."

- The forest grows darker, and the Traveler panics as the Guide vanishes.

At the end of the play, the last scene of the script even introduces a new character to emphasize the universality of the theme, "A young traveler (new character) arrives at the fork, mirroring the first scene. The original Traveler, now the Guide, smiles and steps aside, letting the new Traveler decide." The act closes with the voiceover *"Two roads diverged in a wood, ... that has made all the difference."*

It is evident that the AI model made the two versions of the adaptation of the poem distinct to their mediums. It incorporated cinematographic and stylistic details, light and sound effects like vivid visuals, voiceovers, flashback to hold viewers' attention in the television script. These are however simple experiments based on a simple short story and a well-known poem demonstrating the use of AI as an aid in scriptwriting.

It will be worthwhile to refer to a few notable examples and case studies of AI-generated scripts. A script challenge study which had writers input prompts into AI to create short scripts or short stories to identical prompts, demonstrated that AI could mimic various styles and maintain narrative structures and also that it was "more progressive regarding gender roles and sexuality than human writers".ⁱ *Sunspring* is a 2016 sci-fi film written entirely by AI, trained on hundreds of science fiction screenplays. The script followed basic patterns but it had nonsensical dialogues, showing the lack of emotional or thematic coherence. This demonstrates both the prospects and limitations of AI use in storytelling.

Netflix uses AI to assist in parts of content production to identify trends and analyze viewer data for content recommendations but humans play a central role in create storylines.ⁱⁱⁱ For example, the platform used AI to develop elements for a show, *House of Cards* to analyze viewer preferences and narrative arcs to suggest storylines. It even customized trailers for different viewers based on their viewing habits.ⁱⁱⁱ

AI in Scriptwriting Today

The integration of AI into scriptwriting has introduced many tools designed to streamline and enhance various creative processes. Tools like ChatGPT and Jasper assist in generating dialogue and scene descriptions, while Sudowrite helps writers refine ideas and overcome creative blocks. ScriptBook is an AI tool which doesn't write scripts but does script analysis and content validation for marketability. A specialized software like DeepStory caters to narrative creation for video games and films. These tools leverage natural language processing and machine learning to emulate human creativity, producing drafts and suggestions customized to user inputs. By automating some aspects of writing, AI tools allow creators to focus on refining their vision rather than starting from scratch.

AI plays a collaborative role in the creative process, automating tasks such as generating plot outlines, crafting character arcs, and creating tone-specific dialogues. While this speeds up workflows, the human element remains essential to infuse depth and originality into stories. Case studies like *Sunspring*, illustrate both the potential and constraints of AI in storytelling. Moreover, use of AI by OTT platforms to analyse viewer preferences and influence content creation, shows its increasing influence on storylines and audience engagement.

However, despite its advantages, AI's role in storytelling raises concerns about creativity, ethics, and cultural representation. Also, it creates questions of authorship and may lead to plagiarism and laziness. AI tends to replicate existing patterns from data, potentially leading to fixed and repetitive narratives. Issues like stereotyping and lack of authenticity highlight the necessity of ethical frameworks. Also, while AI may bring in cost and time efficiency, it risks standardizing storytelling and displacing the screenwriter's role. These issues will have to be addressed as the technology forays into newer applications.^{iv} Balancing AI's capabilities with human creativity is crucial to ensuring that the evolving landscape of scriptwriting continues to produce diverse and engrossing stories.

V. CONCLUSION

While AI can mimic creative techniques and patterns, it is limited by its inability to understand and innovate beyond the patterns it has been trained on. It lacks originality and human awareness that humans can bring to storytelling based on their ingenuity. The future lies in AI-human collaborations, where AI handles repetitive tasks while humans add creativity and emotional depth.

Future research may explore collaborative engagement and content created with new AI models which will provide more data and thus wider bases for comparing human creativity with AI-generated content, aiming to promote human and AI collaboration and mitigate shortcomings.

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