# Research reveals limitations of AI in storytelling compared to human creativity



In a recent study conducted by Nina Beguš, a researcher and lecturer at UC Berkeley, the contrasts between human creativity and the capabilities of generative AI in storytelling were examined, revealing the ongoing limitations of AI in producing unique and compelling narratives. This research highlights the complexities of storytelling as an inherently human endeavour, exploring themes of love, identity, and existentialism through the lens of the ancient myth of Pygmalion.

Beguš, who operates within the university's School of Information and Department of History, focused her research efforts on the domain she terms "artificial humanities." This interdisciplinary approach leverages humanities subjects, such as history and literature, to enhance understanding of and contribute to AI development.

The study, formally published in the journal Humanities and Social Sciences Communications, involved testing both human participants and AI models—OpenAI's GPT-3.5 and GPT-4, along with Meta's Llama 3 70b—using carefully structured prompts derived from the classic Pygmalion narrative. This guiding story, originating from Ovid’s “Metamorphoses,” is one of unrequited love and creation, revolving around an artist enamoured with his own sculptural creation.

Participants, both human and AI, were prompted to create stories based on the myth, with options either focusing on a creator falling in love with their artificial creation or another person doing so. The study gathered 250 human-written responses and 130 AI-generated stories.

The findings were revealing. While AI models exhibited a basic understanding of the Pygmalion myth, their outputs were often repetitive and formulaic, lacking the depth and richness characteristically found in human-authored narratives. These AI-created stories frequently fell back on clichés and simplistic storytelling methods, with characters described as flat and their motivations unconvincing.

Interestingly, while earlier iterations of AI models were gender-neutral in their storytelling, newer versions made strides toward inclusivity. For instance, some AI narratives featured same-sex relationships and even polyamorous structures, a detail more prevalent in AI-generated texts than in human ones, reflecting the programming intention to align AI outputs with contemporary gender and relationship norms.

Conversely, human storytellers demonstrated a diverse array of narratives that showed a deeper existential reflection, tackling themes of loss and emotional intricacies that AI struggled to replicate. Despite the AI's growing sophistication, the dynamic nature of human creativity and the ability to draw upon cultural and societal contexts provided a richness to the narratives that AI has yet to achieve.

This research signifies a broader implication for the role of humanities in AI development. As AI continues to evolve, the insights from humanities scholars like Beguš suggest that while AI can aid in the creative process, it may not replace the intrinsic human connection associated with storytelling. Universities, recognising this shift, are increasingly integrating AI tools into educational settings, exploring how students can utilise them effectively in their academic exercises.

Through her exploration, Nina Beguš has emphasised the importance of maintaining the human touch in storytelling. She posits that while AI will transform aspects of writing, particularly in how stories are crafted, the fundamental human urge to create and engage with narratives remains irreplaceable. Her work suggests that the humanities not only inform AI development but also safeguard the cultural integrity and expressive potential that define human creativity.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* [https://ls.berkeley.edu/news/don’t-worry-study-shows-you’re-likely-more-creative-writer-chatgpt-now](https://ls.berkeley.edu/news/don%E2%80%99t-worry-study-shows-you%E2%80%99re-likely-more-creative-writer-chatgpt-now) - Corroborates the study by Nina Beguš comparing human and AI creativity in writing.
* <https://vcresearch.berkeley.edu/news/study-shows-youre-likely-more-creative-writer-chatgpt-now> - Provides details on the creative writing experiment and the findings that humans wrote more creative stories than AI.
* <https://twitter.com/UCBerkeley/status/1850998231607738657> - Mentions Nina Beguš's research and the outcome that humans wrote more creative stories than AI models.
* <https://www.ninabegus.com> - Provides background information on Nina Beguš, her research areas, and her work at UC Berkeley.
* <https://www.independent.co.uk/tech/human-ai-creative-writing-technology-b2636923.html> - Details the study's methodology, including the use of OpenAI and Meta models, and the comparison of human and AI stories based on the Pygmalion myth.
* <https://www.independent.co.uk/tech/human-ai-creative-writing-technology-b2636923.html> - Highlights the limitations of AI in producing unique and compelling narratives and the inclusion of diverse themes in human stories.
* [https://ls.berkeley.edu/news/don’t-worry-study-shows-you’re-likely-more-creative-writer-chatgpt-now](https://ls.berkeley.edu/news/don%E2%80%99t-worry-study-shows-you%E2%80%99re-likely-more-creative-writer-chatgpt-now) - Explains the interdisciplinary approach of 'artificial humanities' and its role in enhancing AI development.
* <https://vcresearch.berkeley.edu/news/study-shows-youre-likely-more-creative-writer-chatgpt-now> - Discusses the structured prompts derived from the Pygmalion narrative and the participation of both human and AI models in the study.
* <https://www.independent.co.uk/tech/human-ai-creative-writing-technology-b2636923.html> - Details the findings that AI models lacked depth and richness in their stories, often relying on clichés and simplistic storytelling methods.
* <https://www.independent.co.uk/tech/human-ai-creative-writing-technology-b2636923.html> - Mentions the inclusion of same-sex relationships and polyamorous structures in AI-generated stories, reflecting contemporary gender and relationship norms.
* <https://www.ninabegus.com> - Emphasizes the importance of maintaining the human touch in storytelling and the role of humanities in safeguarding cultural integrity and expressive potential.
* <https://news.berkeley.edu/2024/10/28/dont-worry-study-shows-youre-likely-a-more-creative-writer-than-chatgpt-for-now/> - Please view link - unable to able to access data
* <https://www.independent.co.uk/tech/human-ai-creative-writing-technology-b2636923.html> - Please view link - unable to able to access data