



Research Article

Does generative artificial intelligence pose a threat to the humanities?

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Abstract

The question of whether generative artificial intelligence (GenAI) poses a threat to the humanities— languages, literature, philosophy, art, and music, among others—is on the minds of many. This paper considers several GenAI capabilities that challenge academic disciplines, in general, and the humanities, in particular. We critically analyze GenAI’s potential impact on (a) content quality, bias, and privacy and (b) on teaching, research, and related jobs in the humanities. In addition, GenAI-related developments raise ethical concerns in academic environments where the contribution of these tools—in teaching, research, or students’ work—are not explicitly stated. Although GenAI presents many challenges, we argue that it cannot replace humanities education, research, or practice because it lacks emotions, lived experience, originality, uniqueness, and ethical considerations. GenAI’s encroachment into the humanities can be viewed as mostly aiding and facilitating human works as opposed to replacing them. While this article relies on a focused narrative review of literature, we critically examine factors that can help and hurt the humanities and offer plausible explanations supporting our central argument—why GenAI does not pose an existential threat to the discipline. This paper concludes with several policy recommendations to address some of the aforementioned challenges.

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Introduction

Artificial intelligence (AI)—referred to as a set of complex structures and processes that allow machines to mimic human learning, understanding, and responses—has been in the pipeline since the 1940s. Although early developments were slow, AI as a field gained momentum in the 1980s. Recent developments—such as OpenAI’s launching of ChatGPT in 2022 and DALL·E in 2023—have drawn an intense focus on the technology from a large number of stakeholders. Generative artificial intelligence (GenAI) is a subset of AI tools that can respond to natural language queries—generate new content based on what is already known about a topic—when prompted. Unlike other technological innovations, GenAI’s ability to respond to natural language prompts, much like humans, has increased its popularity among nontechnical users. Besides text, the ability to create and manipulate images, voice, and videos allow GenAI tools to perform many tasks that were previously considered outside of the purview of machines. Thus, GenAI has significantly amplified the discourse on AI and its societal implications.

Rapid advancements in AI technology have rendered it a source of both excitement and apprehension (Rao and Verweij, 2017). While many people view AI tools as productive, helpful, and fun, others view them as posing significant challenges to occupations including those related to the humanities. Consequently, the question whether GenAI poses a threat to the humanities is on the minds of many (Moore, 2023; Chun and Elkins, 2023; Dimock, 2020). In this paper, we identify a number of GenAI capabilities that challenge academic disciplines, in general, and the humanities, in particular. Synthesizing claims about GenAI—both for and against—we argue that while GenAI, as such, *does not* pose

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an existential threat to the humanities, it *does* present several challenges and raise ethical concerns. We briefly discuss how some of these concerns can be addressed, without stifling innovation and technological progress, which are the hallmarks of human ingenuity and prerequisites for development (Wang et al., 2021; Dutz and Sharma, 2012; Cheshire and Malecki, 2004).

Background and Recent Developments in AI

Artificial intelligence (AI) involves interdisciplinary expertise from computer science, engineering, mathematics, statistics, and information science, which allows it to create agents capable of autonomous reasoning, learning, and action (Russell & Norvig, 2021). AI seeks to replicate and extend human cognitive functions, enabling machines to perceive their environment, analyze complex datasets, and respond adaptively to diverse prompts and contexts (Rigano, 2019; Nilsson, 1998). AI is an umbrella term that includes several concepts including artificial narrow intelligence, artificial general intelligence, artificial super intelligence, and generative artificial intelligence (GenAI).

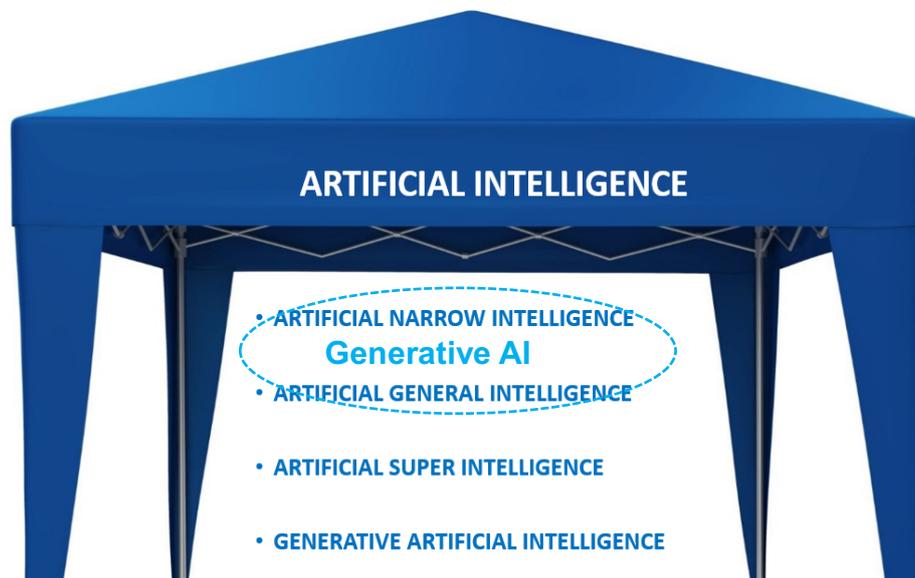


Figure 1. Forms of artificial intelligence

Figure 1 shows various forms of AI under the broad canopy. Artificial narrow intelligence, also known as weak AI, can complete specific tasks, like game playing or facial recognition; it is capable of natural language processing and computer vision (e.g., Siri and Alexa). Artificial general intelligence (AGI) and artificial super intelligence (ASI), referred to as strong AI, are expected to incorporate human behaviors more prominently, such as the ability to recognize tone and emotion and respond accordingly. AGI is expected to perform at par with humans, whereas ASI would surpass human intelligence and ability. As such, neither AGI nor ASI exists yet, but research is ongoing. GenAI borrows elements of both strong and weak AI. It is more practical and creative than artificial narrow intelligence. GenAI tools, based on their current state of knowledge, can create new outputs such as text, pictures, sounds, and video. Although development of AI began in the 1940s, AI experienced a significant boost in the 1990s. Box 1 provides a brief timeline of major AI-related developments:

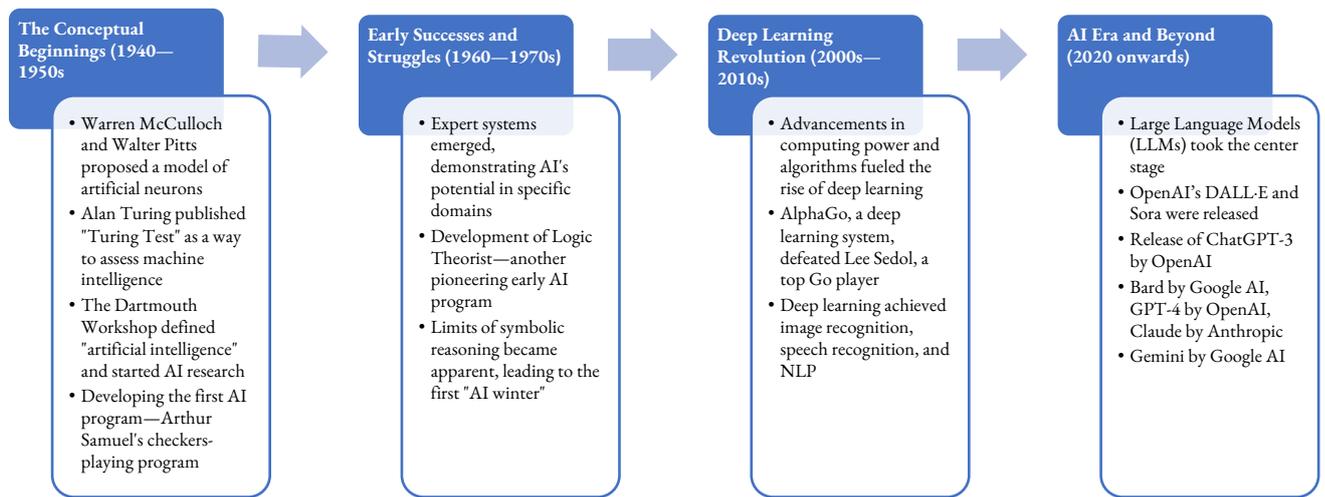


Figure 2. Major AI-related Developments, 1940 - 2024

In the 2000s, advancements in computing power and algorithms fueled the rise of deep learning. The subsequent growth and expansion of the internet allowed the creation of a large corpus of data, which benefited deep learning models. The current decade (2020 and onwards) can be rightly called the AI era, as in these years, various large language models have been developed ushering a plethora of GenAI tools and platforms such as ChatGPT, Gemini, Claude, and DeepSeek. Table 2 includes some of the popular GenAI tools and their uses.

Table 2. Popular AI tools and their uses

Model / Tool	Developer	Most Common Uses
ChatGPT	OpenAI	Conversational AI, writing assistance, coding help, research support, education, creative tasks.
Gemini	Google DeepMind	Search integration, conversational AI, knowledge retrieval, summarization, multimodal reasoning.
Claude	Anthropic	Safe, ethical conversational AI, research support, drafting documents, enterprise use.
DeepSeek	DeepSeek AI	Multilingual generative AI, text reasoning, scientific research applications, productivity tools.
Grok	xAI	Conversational AI integrated with X (Twitter), real-time information retrieval, social media assistance.
LLaMA	Meta AI	Open-source large language models, research experimentation, enterprise AI integration, developer tools.
Mistral	Mistral AI	Open-weight efficient models, coding, reasoning, open-source research and deployment.
Perplexity	Perplexity AI	Web search engine that processes user queries and synthesizes responses; analyzes/processes information

Besides these, there are several GenAI models that excel in specific functions. Box 3 provides a sample of different tools for serving various functions including writing and composition, translation and language, visual arts and design, music and audio, and video and multimedia creations.

Table 3. GenAI tools for the humanities

Writing & Composition	Translation & Language	Visual Arts & Design	Music & Audio	Video & Multimedia
Jasper	DeepL	DALL-E 3	MuseNet	Sora
Copy.ai	Google Translate	Midjourney	AIVA	Synthesisia
Writesonic	Reverso	Stable Diffusion	Soundraw	RunwayML Gen-2
Grammarly	Creative Writing & Storytelling	NightCafe Creator	Mubert	Pika Labs
QuillBot	Sudowrite	Artbreeder	Boomy	Stable Video Diffusion
Sudowrite	Inkforall	RunwayML	Amper Music	HeyGen
NovelAI	ShortlyAI	Adobe Firefly	Jukebox	D-ID
Rytr	Character.AI	Leonardo.ai	Beatoven.ai	Luma Dream Machine
	AI Dungeon	Canva AI Figma AI		

While AI-related developments have raised concerns for years, recent proliferation of GenAI tools and platforms have resulted in a wide variety of reactions and responses from the public, innovators, intellectuals, social commentators, as well as policymakers. On one hand, proponents view GenAI as a helping hand, a potent contributor to the global economy, and a potential game-changer (Hayden, 2023; Gordon, 2021). On the other hand, skeptics view AI as a mixed bag—containing some good and a great deal of hype (Selkar, 2023; Svoboda, 2023). Academic researchers as well as disappointed users and critics have questioned the capabilities of the current generations of GenAI tools (Kabir et al., 2024; Liu et al., 2023; Coulter and Bensinger, 2023; Kim, 2023; Bogost, 2022). Although GenAI's ability to understand and respond to natural language queries is viewed positively by many, several others—including both academics and professionals—are wary of its misuse as well as other AI-related ethical concerns (Mhlanga, 2024; Hagendorff, 2024, Ara and Ara, 2024). Several artists and humanities scholars have expressed concerns regarding the potential impact of AI on the humanities (Ferrara, 2024; Kawakami and Venkatagiri, 2024; Erlandson, 2023; Clark and Ortmeier, 2024).

The humanities include cultural, ethnic, and gender studies; languages and literatures; jurisprudence, including the philosophy of law; philosophy, including history of philosophy; study of religions, excluding the study of theology or ministry; study of the arts, including the history of arts; American studies and area studies; history and archeology; and communication studies (American Academy of Arts and Sciences, 2024). Traditionally, the humanities were considered least likely to be affected by machine intelligence and automation, but GenAI's ability to understand and write in natural language and create stories, poems, paintings, and videos set it apart. Several scholars and professionals are raising the question—whether the humanities are facing an existential threat from AI and whether the humanities can survive the current and future waves of AI developments (Burnett, 2025; Christman, 2025; Bell, 2025). AI is increasingly being viewed as posing significant challenges, if not outright threats, to the humanities. While many view AI as a significant challenge, there are several arguments making the case why AI is not necessarily a threat to the humanities. Christman (2025) argues that so long the society values truth, beauty, and goodness, the humanities will have a place in the society. Burnett (2025) notes that while AI tools can synthesize the available knowledge and come up with reasonable answers, they cannot come up with the right questions, the fundamental questions, which are the task of the humanities. Bell (2025) adds to the conversation by pointing out the lack of originality and judgement in the AI generated works. Genuine judgements involve making sense of evidence, identifying linkages, considering alternatives, and expressing skepticism—by asking questions, beyond pattern recognition (Bell, 2025). These show AI may not be able replace the humanities, as it lacks what it takes to be a human, which entails, among other things, possessing a sense of being, originality, and judgements (Bell, 2025); understand and care for truth, beauty, and goodness (Christman, 2025); nor it can ask the right kind of questions, which are essentially humanistic (Burnett, 2025). Dubreuil (2025) argues that artificial intelligence is not a threat to the humanities but an opportunity to clarify their purpose. He contends that by distinguishing human "creation" from AI's mere "generation," the humanities can focus on their most vital and

irreplaceable functions, such as critical interpretation and the pursuit of meaning. However, these arguments leave several questions unanswered as how AI tools can perform many of the humanities' functions, but may not replace the humanities in their entirety. To develop a better understanding of how AI can shape academic disciplines in general, and the humanities in particular, we conducted a brief literature review and complemented our findings with interdisciplinary perspectives on the topic.

Method

For this article, we conducted a focused narrative review of the latest and classic literature including books, journal articles, reports, and online blogs. In the past, several scholars have noted the importance of literature review as a component of research as well as a method on its own (Bruce et al., 2016; Randolph, 2009; Boote and Beile, 2005). Through this review, we identify various promises and challenges that AI presents. We then focus on challenges that seem more relevant to the humanities. We conclude that AI does not pose a threat to the humanities, *per se*; rather, if regulated and used properly, it can make the lives of the humanities scholars, educators, and practitioners easier and more productive. Although this research is primarily aimed at identifying challenges posed by AI, the nature of this analysis has allowed us to explore related literature, which helped us identify and synthesize strategies that can help mitigate many of these challenges. Before discussing how AI tools affect various aspects of society, we discuss some of the ethical considerations and concerns raised by recent developments in AI.

Ethical Concerns and Other Challenges

Content Quality and Bias

GenAI's ability to create content similar to humans is viewed differently by different individuals and groups. On one hand, it gives individuals and organizations the ability to create human-quality content quickly and at very low cost. On the other hand, it creates room for cheating, plagiarism, fabrication, and misrepresentation of persons and views (Delouya, 2022; Mittal, 2023; Nolan, 2023). A 2023 survey found that 89% of the students surveyed reported having used GenAI tools for homework assignments, which in many cases was not approved by the instructor (Westfall, 2023). Typically, content created with GenAI tools lacks originality, depth, and diversity of perspectives (Denny et al., 2023; Semer, 2024).

Another concern is that AI-generated content reflects existing biases or shows even more biases because of implicit coding in the AI algorithm (Baum, and Villasenor, 2023; Lanum, 2024). A 2024 survey found that over 63% of respondents expressed concerns about AI-generated contents being potentially biased or inaccurate (Siu, 2024). Whereas some biases are explicit, others are covert and difficult to recognize (Oppenheim, 2024). Hofmann and others (2024) probed covert racism against speakers of African American English, a dialect used by some descendants of enslaved African Americans in the U.S. They found that although large language models could overcome overt racism to an extent based on human feedback, covert racism existed deeply in such models. For instance, large language models were found to assign less prestigious jobs to the speakers of African American English, compared with the speakers of standard American English (Hofmann et al., 2024). Google's Gemini was criticized for refusing to highlight achievements of people of European descent, while it did highlight those of different minority communities (Stuttaford, 2024; Virk, 2024). This revealed Gemini's double standard regarding achievements of different communities.

Privacy, Credit, Data Protection, and Plagiarism

GenAI's ability to reuse data collected for one purpose for another unrelated purpose, without explicit permission constitutes invasion of privacy (MacKinnon and King, 2022). As GenAI trains itself on available content, it is difficult to maintain identity privacy. GenAI's ability to identify, analyze, and generate pictures poses serious challenges to privacy and identity protection (Kerry, 2020). The ability to identify people's faces will allow GenAI systems to link people with data collected from other sources, which then can be (ab)used by other individuals or organizations. GenAI's impact on privacy and data protection is a major concern for many disciplines—including the humanities.

While privacy is important in most disciplines, it is of utmost importance in the humanities due to its relationship with data protection, ownership, and credit for work. Stories, poems, pictures, voices, videos, and personal information

of individuals and groups are private property of the creators of such content. Unless publicly shared by the owner(s), or given express consent and credit, such content and data should not be made public.

Related concerns about plagiarism are also serious. GenAI tools scrape data from the internet—including copyrighted materials—without approval from the owners of such content. In some cases, GenAI tools have copied sentences, sometimes paragraphs of text, from other published materials and reproduced it as contents generated by these tools (Tutella, 2023; Mittal, 2024). In some other cases, AI platforms have copied voices of artists with little or no modification and reproduced music using those artists' voices (Smith et al., 2023). Besides these, GenAI tools have made committing plagiarism easy and tempting. Many students and scholars have started using GenAI tools for their homework assignments, term papers, and scholarly articles (Kwon, 2024; Steponenaite and Barakat, 2023). While using AI tools, plagiarism can occur in three ways. First, plagiarism occurs if a student or scholar takes content directly from AI-generated output and use it without any modification to it or acknowledging that the material is AI-generated. Second, plagiarism occurs if the AI tool copies materials directly from another source without modification and the student or scholar uses that material as his or her own. In this case, the user steals ideas or results from other authors unknowingly. A third possibility is that one uses GenAI tools for content and modifies the content before using, without duly mentioning the role of GenAI in the process.

Recent developments in GenAI have led to a situation where literary or artistic works can be easily produced and published without adequately describing the role of GenAI in such works. The use of GenAI to create text and artistic contents is not new; AI tools were able to generate poetry in the late 1960s, although the quality was sub-par compared to most human-written poetry (Freeman, 2023; Lau et al., 2020). In the 2020s, many individuals and organizations have been creating and publishing poetry, stories, paintings, musical compositions, and videos generated partially or fully with the help of GenAI. GenAI has been used in content creation, content enhancement, and post production workflows, among other creative activities (Malakar and Leeladharan, 2024; Anantrasirichai and Bull, 2021). Use of GenAI includes, but is not limited to, journalism and text generation, script writing, music generation, image generation and modification, masking and inpainting, animation, deepfake contents, writing captions, text categorization, advertisements and film analysis, content retrieval, recommending services, restoration of art-works, and contents based on augmented, virtual, and mixed reality. While AI-assisted content generation is not new, such content creation has gained momentum since the launch of ChatGPT by OpenAI in November, 2022. A plethora of websites and tools have been developed in the last five years that can create text, image, music, and video (Box 2). Generation of content using AI tools is not necessarily a problem, but it becomes problematic when the users of AI tools do not acknowledge the role of AI in the content generation and claim the content as their own.

As AI-generated creative content is created and disseminated for public consumption, several concerns arise, including concerns regarding the quality (e.g., the content's accuracy, originality, uniqueness, shallowness, or authenticity). Misrepresenting AI-generated content for human-generated content—often called deepfakes—can mislead people, erode trust in media, create communal tensions, raise national security concerns, and even create or perpetuate civil unrest by propagating divisive content (Pantserver, 2020; Langa, 2021; Ristovska, 2022; Ferrara, 2024). It can be difficult to differentiate between human-generated and AI-generated work and there are concerns with deepfakes, which closely mimic appearances, opinions, and expressions of genuine human beings. In many cases, such AI-generated materials are indistinguishable from human work and can be published as human-generated.

Integration of GenAI in the Humanities and Other Challenges

While the integration of GenAI in education poses several challenges to the humanities, yet another challenge is inequitable resources. It is costly to acquire and adopt certain technologies and services. Often endowed with more resources, STEM educators and researchers stand to benefit more from GenAI tools and services compared to those in the humanities. In most countries, like the U.S., STEM-focused departments and programs are prioritized and provided with higher levels of resources (Barstow and Durey, 2021; Dalton, 2016; Olmos-Peñuela et al., 2015) while humanities departments are often resource-constrained (Barstow and Durey, 2021; Stein et al., 2019). This makes it difficult for the

humanities programs to adopt the latest tools and technologies, including many GenAI tools, and train personnel to use those.

Declining Interest and Enrolment in the Humanities

While developments in GenAI pose several challenges to the humanities, these are not the only challenges the discipline faces. Limited career prospects and decline in interest in the humanities have been threatening humanities education and training for decades. Even before the launch of popular GenAI tools such as ChatGPT, several indicators—such as decline in humanities enrollments, high dropout rates in comparison to STEM programs, and colleges considering dropping many humanities majors—threatened the humanities (Anselment, 2023). As a result of declining enrollment and rising operational costs, several arts schools—including the San Francisco Art Institute, the Pennsylvania Academy of the Fine Arts, and University of the Arts in Philadelphia—have been closed (Greenberger, 2024). It is worth noting that the San Francisco Art Institute declared bankruptcy and attempted to merge with the University of San Francisco in 2022, which preceded OpenAI's release of ChatGPT (Villa, 2023). While the rise of GenAI is correlated with further decline in interest in the humanities, it cannot be deemed the sole cause of it.

AI's Potential Impact on the Job Market

With the introduction of AI in most sectors of employment, about 40% jobs are likely to be impacted in some ways (Daugherty et al., 2023). The Future of Jobs Report 2023, published by the World Economic Forum (WEF), surveyed over 800 companies globally that collectively employed over 11.3 million workers across 27 industry clusters, identified employment skills that are currently relevant and those that will be relevant in the near future. The report found that, according to industry specialists, fields such as artificial intelligence and machine learning, sustainability, business intelligence, information security, and financial technology will see the biggest increase in employment demand. In contrast, demand for human workers will decrease in accounting, book-keeping, payroll, material-recording and stock-keeping, data-entry, data analysis, clerical jobs, postal service, and certain banking and finance-related operations (Di Battista et al., 2023).

The report also found that creative and analytical thinking, technological literacy, curiosity and lifelong learning, along with resilience, flexibility, and agility, will be the most sought-after job skills in the near future. According to the WEF report, the job skills that are likely to be less important in the future are programming, marketing, language-related skills, reading, writing, mathematics, sensory-processing abilities, as well as manual dexterity and precision. Thus, according to this report, while the demand for some humanities-related jobs is likely to decline, demand for other creative jobs will likely increase.

GenAI's Potential Impact on Teaching and Related Academic Job Opportunities

GenAI tools can perform many tasks related to course development; generation and dissemination of materials in the form of text, audio, and video; and tasks related to grading and evaluation of assignments, quizzes, exams, and papers (Panke, 2023). GenAI tools can be used to develop syllabi, produce learning materials, deliver lectures, answer questions, develop quizzes and exams, and evaluate student performance. For instance, Goel and Joyner (2017) discussed the use of GenAI to teach a class at Georgia Tech beginning in 2014. The fully online course integrated AI techniques into the instruction of the course, including embedding 100 highly focused nano-tutoring agents in the video lessons. In Germany, robots are being used as teaching assistants in classes (Cardosa and Castro, 2023). In Japan, AI-enabled chatbots are being used in certain online educational programs (Ito et al., 2021). Tanwar (2023) provided numerous examples of preparing syllabi by the generative AI tool ChatGPT. Goel (2020) developed a socio-technical system comprised of four AI-powered tools that can arguably make online learning in higher education more accessible and affordable. Robots, equipped with GenAI, can easily teach many classes either partially or fully, which could affect teaching jobs (Mitchell, 2023). As AI-generated content creation is being adopted by individuals and organizations, it can result in the displacement of workers whose job is to create such content (Nolan, 2023; Acemoglu and Restrepo, 2020). In addition, those involved in teaching how to write—creatively, academically, or professionally—are likely to be affected, as introduction of GenAI tools in writing is likely to reduce future demand for human writers.

Like teaching, AI tools can have a profound impact on scholarly research and related jobs, as these tools can be employed in time-consuming tasks such as literature reviews, data collection, and analysis; hence, related jobs are likely to be affected. AI-based tools can be employed at each stage of research—from ideation to dissemination (Cornell University, 2023; An, 2023; Hayden, 2023). The application of AI tools in scholarly research allows researchers to accomplish tasks much more efficiently and, in many cases, it would allow researchers to carry out research that would otherwise be beyond their skills and the research tools available to them. Performing tasks such as conducting literature reviews, data collection and analysis, and reporting results can be, at least partially, allocated to AI tools. Humanities scholarship, like other disciplines, can benefit from the potential productivity gain offered by AI tools, but the latter can reduce the number of humanities scholars and research-support workers engaged in research.

AI's Impact on Arts, Culture, and Creativity

Recent developments in AI, and GenAI in particular, have already made a significant impact on the world of art and culture (Oksanen et al., 2023). From producing text, images, and videos to live performances by humanoids, GenAI has changed the ways in which art is produced and consumed. Now GenAI tools can write stories, poems, and songs following the styles of our favorite authors and poets. We can hear almost any song in virtually any singer's voice using publicly available samples of their voice and in the future, we will likely see humanoids dancing like our favorite dancers.

Over time, as AI technology improves and AI-enabled robots learn to do more jobs like humans, we will have more free time. Besides affecting employment, additional free time at our disposal is likely to affect our overall lifestyle including patterns of work, recreation, and socialization. We can, foresee a profound cultural shift caused by the AI revolution that is already underway. The AI revolution has affected not only how we produce and consume art but has also more fundamental aspects—such as what constitutes *art* and our understanding of *creativity* itself (Lee, 2022; Usca et al., 2024; Samaniego et al., 2024).

Creativity is often thought of as a human monopoly, but the emergence of GenAI systems has allowed us to rethink and focus on understanding creativity, intelligence, and the role of technology in creative pursuits. Some scholars believe that GenAI does not possess any real intention or intelligence; it merely responds to queries and makes predictions on the basis of correlations between currently existing facts or patterns (Kehlmann, 2021). Others believe that machine intelligence is based on algorithms and cannot be creative in the real sense, and that AI creativity can be best described in terms of optimizing and augmenting existing human creativity (Ezeani, 2024). Still others believe that excessive use of GenAI and other such tools can lead to moral de-skilling, reducing our skills at making moral decisions due to lack of practice (Vallor, 2015; Green, 2019). These claims can be summarized as GenAI lacking agency and autonomy, and since it cannot possess true intelligence or experience, it cannot be creative.

There are others, however, who believe that AI can augment our intelligence, help us to be more productive and creative, and that AI tools can be our creative partners. Carter and Nielson (2017) argued that AI can be used to augment human intelligence. AI can function as a form of cognitive extension (José Hernández-Orallo and Vold, 2019). Even before the launch of ChatGPT in 2022, Kantosalo and Riihiahio (2019) found that a creative process in which humans interacted with computer intelligence and provided feedback to the computer systems generated poetry that could provide long-term enjoyment.

Cropley and others (2023) helped extend this line of argument. Defining creativity as the ability to generate novel and effective outputs, Cropley et al. (2023, p.19) argue that “artificial systems are limited to, at best, moderate levels of incremental creativity.” This implies that AI systems can contribute to creativity, even if the contribution is incremental. Cropley et al. (2023) argue that machines and humans can partner in identifying needs and devising solutions in novel and effective ways. Commenting on the usefulness of emerging technologies, Leonard (2021, p. 29) noted, “creative machines are either tools or creative partners to some degree.” Hence, machines can be considered at least partially creative or partners in creativity. GenAI tools such as ChatGPT can help foster creativity and artistic expression, preserving cultural heritage and promoting cross-cultural understanding (Rane, 2023).

While the debate—whether GenAI is a boon or bane for the humanities—is spirited, the use of GenAI tools in the humanities is on the rise. Earlier we discussed the use of GenAI systems in the humanities (Box 2). Note that GenAI has

made inroads to virtually all areas of the humanities. This has drawn the attention of humanities scholars, computer scientists, and AI experts alike. As a result, a relatively new academic discipline—digital humanities—is gaining momentum. Connecting creative machine learning and AI to digital art education pedagogies, Leonard (2021) proposed a new material theoretical framework for digital art education pedagogy. Such developments and shifts in thinking point out to the fact that AI is here to stay and the humanities—reluctantly or willingly—has already adopted aspects of the technology. This prompts the question: Does AI in general, and GenAI in particular, pose a threat to the humanities? We argue that while AI poses many challenges to the humanities, it does not pose an existential threat. This argument has two parts: (a) demand-side explanation, which provides a conjecture for continued demand for the humanities even after the integration of GenAI in academia, industry, and elsewhere; and (b) supply-side explanation, which explains why AI-generated content cannot replace human-created content.

GenAI and the Humanities

Humanities in the Era of GenAI: A Trajectory of Demand for Human-generated Content

We recognize that the demand for human-generated content—including novels, stories, poems, songs, paintings, live performances, audio, and videos—is likely to decline as AI-generated content saturates the market. Figure 3 depicts a possible scenario:

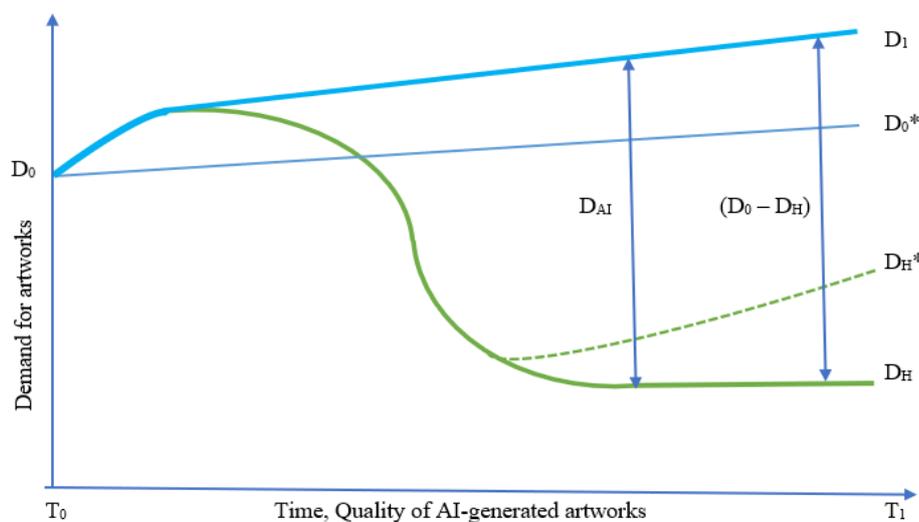


Figure 2. Demand for Content and Quality of AI-generated Content

In the future, the quality of AI-generated artworks will be an important factor in determining how steep this decline in demand will be. The better the quality of AI-generated content, the steeper the decline in demand for human-generated content. However, it is highly unlikely that the demand for human-generated content will be completely diminished, even if the quality of AI-generated content becomes as good as human-created content.

The scenario depicted in Figure 3 can be explained as follows.

- Assume that there is a current level of demand for content (D_0), with no AI-generated content; as time passes, D_0^* is likely to increase due to factors such as population increase and a general increase in the consumption of creative works.
- As AI-generated content becomes available, the overall demand for creative works (D_1) increases; the overall demand can increase due to a number of factors, including excitement and enthusiasm for AI-generated content; supply, variety, and quality of creative content; and decreased cost of available creative content.
- As the quality of AI-generated content improves, the demand (D_{AI}) for such content increases.
- Consequently, the demand for human-generated content declines to D_H , which is still positive.

The reason D_H is likely to remain positive can be explained by several factors, including:

Quality and rarity: Some content can embody extraordinary craftsmanship unique to individual creators; such works tend to be rare and thus such content remains in demand.

Sentiment and prestige: Usually, there is an emotional value associated with certain content produced by individual artists, which creates some demand for such works.

Context, relevance, and human experience: Some works of art are historically and contextually relevant; for example, content produced by a minority artist, a poem composed by someone during the Holocaust, or a song written by a displaced Palestinian are works that cannot be replaced by AI-generated content.

Live performances: While AI-generated content is likely to enjoy a certain level of demand, many live performances (such as a comedy show or a live concert) cannot be replicated by GenAI tools and as a result there will be a certain amount of demand for such works.

Content to train AI: AI-systems will need fresh content to train on; otherwise, AI-generated contents cannot improve, would become stagnant, and would eventually become detached from reality, societal expectation, or both.

Bias and preference: Empirical evidence suggests that some people have a bias for human-generated content and often prefer content created by, or in collaboration with, other human beings (Zhang and Gosline, 2023). As a result, human-created content is likely to enjoy a certain level of demand.

If at some point we, as a society, begin to increase our preference for human-generated content, the demand for such works could increase to any arbitrary level (see D_H^* , in Figure 2). Possible reasons for such an increase in preferring human-generated content include: AI systems go rogue and start to create content that is completely against existing societal values; boredom or fatigue with AI-generated content; and finally, deliberate attempts by governments, educational institutions, civic organizations, and prominent individuals to promote and sustain demand for human-generated content.

The decline in demand for human-generated creative content ($D_0 - D_H$ in Figure 3) can result in a corresponding decline in employment in the humanities. This is also true beyond the humanities. Lee (2022) noted that AI's cost-cutting effect can challenge human workers in many sectors. However, this workforce displacement in the humanities can be smaller than anticipated for at least two reasons. First, some workers currently engaged in the humanities are likely to be employed by the technology sector as specialists to assist in the production and quality control of the AI-generated creative content. Second, even for AI-generated content, humans are required for writing, editing, and modifying the prompts. For these jobs, prior training in the humanities will be beneficial. So, the net result is that there will always be some demand for the arts and artists, and as a result, the humanities should survive, although the sector might shrink considerably.

GenAI – An Aide, Not a Replacement

At this stage of development, GenAI is far too imperfect to fully replace human workers such as teachers, researchers, artists, and other professionals. However, currently GenAI can assist humanities professionals and help improve their creativity by generating ideas, suggesting revisions, and stimulating our creative imaginations (Hassani et al., 2020; Zhou et al., 2023). This still leaves us with the possibility that, in the future, AI could attain enough capabilities to replace human workers. This might be true in some fields, but in the humanities, it is difficult to imagine. As Birchard (2023) noted, while GenAI is a worthy competitor, humans enjoy a giant edge over the technology and can beat it with creativity and hard work as humans are equipped with lived-experience and a psychology that GenAI does not have. GenAI-generated content typically lacks creativity, critical thinking, and domain expertise (Siu, 2024). Because AI tools are based on algorithms, they are not creative in the truest sense (Ezeani, 2024). As of now, AI-generated works consist of small parts of human generated works and judged on the basis of their similarity to human-generated works. This implies that they are not entirely original nor expected to be so. One study comparing students' composition with AI-generated content found that while the student-written pieces varied widely in terms of length and specific syntax features, AI-generated resources appeared to closely mirror the given exemplars (Denny et al., 2023).

Despite many challenges that AI presents, we argue that it cannot replace humanities education, research, or practice because it lacks many characteristics of the humanities—including agency, motivation, emotions, autonomy, lived experience, originality, uniqueness, and ethical considerations. Without these qualities, AI-generated content is not going to be original. GenAI's encroachment into the humanities can be viewed as mostly aiding and facilitating human

works, as opposed to replacing such works. Finally, we know that humans have created GenAI and so humans can live without it. However, GenAI needs humans to provide initial content or training data, context, commands, and directions to create specific content.

Moreover, AI needs the humanities' outputs, works of art, and scholarship for fresh content, without which AI cannot be trained effectively. As Wilkins (2023) observed, if large language models are trained using the outputs of other GenAI agents, the former will become increasingly biased, develop simplistic understanding of issues, and eventually become disconnected from reality. If language models are trained with content from both human and machine-generated content, the resulting models become inaccurate. For future AI models to be relevant and useful, they need to train on the works of humans; otherwise, the next generation of AI will learn from what the existing GenAI agents have produced, which will make AI's knowledge redundant and detached from reality.

Researchers have found that after several rounds of training AI models with data from GenAI models, the subsequent trained model becomes completely ineffective—a phenomenon known as model collapse (Rao, 2023; Shumailov et al., 2024). Similarly, Martinez et al. (2023) found that in the context of image generation, if models are trained on AI-generated images, the subsequent models degrade over time. This implies that if AI models are to achieve efficiency and effectiveness, they need original human-generated data. On the other hand, if information and data are solely the products of GenAI systems, then there is no originality. In other words, AI systems will be engaged in the process of *garbage in, garbage out*. So, AI trained with such data cannot be effective at all.

In this context, original data—including text, image, voice, and video—generated by humans become highly valuable for training AI models (Rao, 2023). To train AI models meaningfully, we need the humanities practitioners to produce original data in the form of relevant information, creative expression, genuine insight, and a culturally relevant ethical and moral compass. Thus, the humanities education is invaluable and could be integral to supporting and enhancing new technologies (da Mota, 2024). This further strengthens the argument that the existence of the humanities cannot be threatened by GenAI. While it is true that the humanities face many challenges, including those posed by recent developments in AI, GenAI in particular, AI is not likely to overtake all creative pursuits. AI, especially GenAI, will challenge the humanities, but many of the challenges can be mitigated and managed through policy efforts.

Policy Measures to Address AI-generated Challenges

Challenges resulting from the use of GenAI tools can be addressed, to some extent, in several ways. Whereas in some cases, we can control or restrict certain uses of GenAI, in other cases we need remedial measures to address the challenges resulting from the use of such tools. In what follows, we identify three main types of policies. The first type of policy recommendations aims to regulate and restrict—place various constraints—on AI-generated content, the second aims to promote human-generated content, and the third set of policies are aimed at addressing challenges created by the use of GenAI.

Policies aimed at regulating and restricting AI-generated content

Requiring a digital signature or watermark with AI-generated content, whenever possible, would allow consumers of such products to know the origin of the content, which can help with concerns about plagiarism and work-without-credit. If someone has a preference for human-generated products, this method would allow them the ability to discern between human and AI-generated content by opting in or out as desired. If inclusion of a digital signature is not possible, requiring full disclosure of how the content was developed and how much of it was developed using AI tools and how much human contribution went into producing it would inform the end users, who might opt for a different product. Such disclosure might include (a) which AI tool or software was used, (b) when and where the software was used, and (c) the prompt(s) used to generate the output.

In addition, government, nonprofit, and corporate policies should require AI tools to inform users that all data they share with the tools would be added to the memory and can be used as training data. Such disclosure requirement would discourage some users from sharing information they would like to keep private and ensure approval for future data use for training purposes.

Policies aimed at promoting human-generated content

A set of policies could be developed that aim for promotion of human-generated artworks at public gatherings, which would benefit human creative workers. For example, mandating the purchase of human-generated artwork could be implemented by government offices, agencies, and state-supported educational institutions. In order to protect the interest of the public sector employees, government offices or public agencies could use only human-generated content, or content generated with inputs from human workers, for dissemination to the public.

Supporting humanities departments in universities through additional funding would help sustain these departments, as enrollment and interest in the humanities is declining already; such funds could also be used to promote original research in the humanities. Enabling and supporting individual artists and groups of artists can help protect the interests of many creative workers. Enabling and supporting organizations (businesses and nonprofits) engaged in the production and trade of human-generated artwork would help sustain human-generated art and their creators. To enable and support individuals, groups, or organizations engaged in human-generated artistic work, several strategies can be adopted. For example, providing platforms, creating opportunities for showcasing artwork, commissioning products, providing scholarships/fellowships to individuals and highlighting their works, provide financial assistance and tax subsidy for such organizations.

To address the issue of potential unemployment, underemployment, and low-wages that could occur due to widespread adoption of AI tools, scholars suggest several policy measures. Retraining and upskilling workers displaced by AI tools can help mitigate some of these concerns (George, 2024; Tiwari, 2023). Providing facilities and resources for retraining the humanities workers would enable them to pursue viable career options. As we learned from the COVID-19 pandemic and post-pandemic labor market interventions, putting in place extended unemployment benefits for AI-displaced humanities workers can provide financial resources for such workers and help them navigate potential career options (Samuels, 2020).

Considering the pace and scale of AI-related displacement in the labor force, several scholars have highlighted the need to strengthen unemployment benefits, widen social security nets, and consider universal basic income-style policies (Toriono, 2024; Kelly, 2023; Sholler and MacInnes, 2022; Moradi & Levy, 2020). As majority of existing jobs are exposed to AI (Cazzaniga et al., 2024), and AI adoption generally, and GenAI especially, is occurring much faster and more widespread than other previous technological innovations (Georgieva, 2024; Haan and Watts, 2024; McElheran et al., 2024; Dobbs et al., 2015), workers displaced by AI adoption might not get enough time to understand the situation and secure good employment elsewhere (Sholler and MacInnes, 2022). Alternatively, such unemployment can be addressed by broad-based measures such as universal basic income, earned income-tax credits, and other incentives (Sholler and MacInnes, 2022).

Conclusion

This essay considers concerns about and implications of the rapid adoption of AI tools for the humanities. We highlight several ethical concerns including AI's infringement on privacy, data protection, copyright, ownership, and plagiarism. One of the major implications of GenAI is that it can create content—text, audio, and video—that was previously thought of as possible by humans only. Consequently, it can affect employment in most sectors, including the humanities. While we recognize that the humanities will be affected by the adoption of GenAI tools, we argue that GenAI cannot substitute for education, research, or practice in the humanities because it lacks many essential characteristics inherent to the humanities including agency, motivation, emotions, autonomy, lived experience, originality, uniqueness, and ethics. In the absence of these qualities, AI remains tethered to the instructions given by humans, and its creativity is limited to that of the existing human creativity.

The integration of GenAI into the humanities primarily serves to assist and facilitate human endeavors rather than supplant them. Ultimately, humans have developed GenAI and can function without it. However, AI relies on humans to provide the agency, context, and direction needed to produce specific content. Although it is anticipated that artificial general or super intelligence will have much better capabilities than the current GenAI tools, they cannot replace the

fundamental characteristics of humanity nor do away with the importance of original content or data, which can only be produced by creative workers in the humanities. Thus, it is difficult to imagine that GenAI poses an existential threat to the humanities.

We provide several policy recommendations aimed at (a) regulating and controlling AI-generated content and (b) promoting and sustaining human-created content so that human agency, creativity, and ingenuity can be protected. Humanities and AI scholarship should continuously monitor how humanities' subjects—in terms of education, research, and practice—are affected by AI. As AI evolves, we need to differentiate hype from the reality of job displacement due to AI. With accurate data, we need to periodically examine which sectors or jobs are affected the most and how we can retrain displaced workers and develop alternative livelihood strategies for them. This will make us, as a society, prepared to welcome a future with AI rather than fearing it.

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