

REVIEW

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Challenges or Opportunities: When Artificial Intelligence is Applied to Digital Humanities

Abstract: The aim of this review is to provide a dialectical reflection on the phenomenon of using AI tools to digital humanities, especially in academic writing, and a series of scenarios for the way of applying AI to digital humanities in future. To write this review, I give direct instructions to ChatGPT to generate a 2000-word essay, which defines the digital humanities and describes the field. Then, in the review, I analyze the argument, argumentation methodology and data of the essay. Through these analyses, I conclude that AI is not a replacement for humans in future research and development of digital humanities, but the emergence of AI does make a difference in the way traditional academic writing is done. By a series of comparisons, I argue that AI tools provide new opportunities for digital humanities and suggest some possible ways for AI engagement in digital humanities scholarship.

Keywords: AI tools, Digital humanities, Opportunities

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What AI does right and what it does wrong

In recent years, with the breakthrough development of AI tools, the ways in which AI will be applied to digital humanities is gradually becoming an inevitable topic in this discipline. Yet while there are critical flaws in the performance of artificial intelligence in humanities scholarship, it is clear that the general trend of its application to digital humanities research is irreversible. This has led to concerns, with some considering this trend as a challenge to humanities.

I give direct instructions to ChatGPT 4 to generate a 2000-word essay with headline, introduction, main body, conclusion, in-text citations and references, which defines the digital humanities and describes the field.

When I read the essay by ChatGPT, I found it did some things right. First, it generally followed my directives, and the general layout of the paper is properly executed, which has title, main body, conclusion and references. Second, the statement of the essay is fluent, and it introduces digital humanities from aspects of definition and scope, historical overview and impact on scholarship, which makes readers understand digital humanities comprehensively.

However, although it has some good parts, it still has some crucial flaws which makes it impossible to be called a scientific text strictly. There are three main reasons for it. In the first place, there are some problems with the references of this article. The bibliography does not follow the standard citation format, such as MLA, APA, Harvard, etc. The format is chaotic, the information of the bibliography is not specific, for example, some of them have no number and date for issues, and all of them are not accurate regarding the number of pages. Also, the order of the writer, title, and publisher are completely corrupted. For another, the citations that ChatGPT use are not always correct. In this article, ChatGPT cites the work of Terras Melissa *What is Digital Humanities?*, but I found that she has not written this book, and although the third reference exists, the content it cites does not belong to the cited book. Moreover, the content of the essay lacks creativity, because more than half of this paper is cited from other literature. For example, the part of introduction and the first part of the main body are all cited from Wikipedia, which cannot happen in a manually written essay, because

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

the introduction of a human-written essay will contain mostly original content. In addition, although ChatGPT creates some content in other parts of this essay, it seems to simply summarize what it quotes, instead of giving its own opinions or evaluations, which are the cores of a scientific text. But despite this, there is an exception. In the part of Impact on Scholarship, ChatGPT evaluates the statement “It is not about using computers to do Humanities research for you” as “Digital Humanities is not just about using technology to make research easier but rather about using technology to ask new questions that were previously impossible to answer”, which is constructive to some extent. But this opinion still has its prototype, which is the argument from *The Digital Humanities or a Digital Humanism*, by Parry Dave (2012, p. 433–434). Finally, each argument of the essay is not explained in a very complete and comprehensive manner. The number of words of this essay is well short of 2,000 words, with only 477 words, and its argumentation is very one-dimensional, only using citation arguments. As a result, each argument is merely mentioned, not argued for in the truest sense. For example, in the part of Historical Overview, it explains to the reader that the digital humanities were first called humanities computing, and then expanded further in scope to be called digital humanities, but it does not explain to the reader the detailed history of this change and the reasons for it. There are also no actual projects cited to demonstrate that there is indeed a gap in the definition of this discipline between the two ways of naming it.

Differences in the definition of Digital Humanities

In the essay written by ChatGPT 4, it defines the discipline of digital humanities mostly from Wikipedia, which said that Digital Humanities is a discipline at the intersection of computer science and humanities, and that it uses various kinds of digital methods to solve problems in humanities. It also invokes the metaphor of the “big tent” to illustrate the breadth of the Digital Humanities. From above, it could be summarized that GPT defines and describes digital humanities from three aspects respectively: the nature of the discipline, the way and purpose of research, and the scope of

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

the definition. As a result, I will also gradually elaborate my understanding of digital humanities as a discipline from these three aspects, which includes identification with the arguments of GPT, but more refinement and critical thinking.

First, it would be sensible that digital humanities is an interdisciplinary discipline in terms of the nature of the discipline. Jan Luhmann and Manuel Burghardt (2022, p. 148) argue that “DH is simultaneously a discipline in its own right and a highly interdisciplinary field”, and Lev Manovich (2017, p. 56) defines that “Digital Humanities scholars use computers to analyse mostly historical artefacts created by professionals”. As an independent discipline, digital humanities has clear disciplinary boundaries, however, we cannot simply define its disciplinary nature simply between the traditional humanities and computer science. According to the data of Jan Luhmann and Manuel Burghardt (2022, p. 161–162), the disciplines with the strongest relevance to digital humanities are computational linguistics and information science, while traditional humanities disciplines like art history, linguistics, literary studies and traditional computing disciplines like theoretical computer science, applied computer science, are somewhat different in terms of their research themes and research methods. Additionally, digital humanities is where literary studies, applied computer science, and statistics exist in transition zone, but cannot be called a crossover.

The argument of GPT that the digital humanities uses the method of social science and the computer as a tool to conduct and publish research might be reasonable. Just as N. Katherine Hayles (2012, p. 45) argues that “posit the digital humanities as a diverse field of practices associated with computational techniques and reaching beyond print in its modes of enquiry, research, publication, and dissemination”. However, the aim of the digital humanities is not only about using digital tools to help doing research but rather about using technology to answer new questions that were previously impossible to answer. Because digital humanities uses both quantitative and qualitative methods, which combines strengths in humanities research and natural science research. For example, Drucker (2011, p. 2) defines the data that digital humanities uses as “capta”, which is “taken” actively while data is assumed to be a “given”, and it could answer the question of how humanists will confront the conceptual tools with humanistic principles while

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

keeping up with the times, along with the prevalence of quantitative research and the challenge to the authority of humanistic knowledge and the principles of critical thinking.

Finally, using the metaphor “meeting place” and “trading place” to replace “big tent” might be more appropriate. This disciplinary metaphor is suggested by Patrik Svensson (2012, p. 55), which further expands the scope of digital humanities, and it would presume profound openness to several different epistemic traditions, and a facilitating role that is richly diverse and dynamic rather than purely instrumental or service minded.

Key factors AI do not have in research

Through analyzing the essay *Digital Humanities: A Comprehensive Overview* by ChatGPT 4, I find that there are two crucial instances where the writing of AI tools differ from writing performed by humans, in research and academic writing, and the instances further discussed in the first part of this review. In these instances it is clear that AI tools cannot completely take place of humans doing research in digital humanities.

Firstly, AI tools lack creativity, which could be attributed to the misuse of objectivity in the AI writing process. In the essay, more than half of it is cited from other literature, and its argumentation is very one-dimensional, only using citation arguments. It needs to be further explained that this objectivity of AI refers to quoting existing texts without critical thinking in a completely dispassionate manner. And Daston and Galison (2010, p. 17) suppose that this kind of objectivity is actually “blind sight”, they said “objectivity preserves the artifact or variation that would have been erased in the name of truth; it scruples to filter out the noise that undermines certainty...objectivity is blind sight, seeing without inference, interpretation, or intelligence”.

Moreover, AI tools lack academic ethics, which is mainly reflected in the data and references sections of this paper. If the misquoting of references and fabrication of data of AI is a low-level error that can be fixed, its direct citation of objective mass data without filtering will cause even more trouble for digital humanities research. Catherine D'Ignazio and Lauren F. Klein (2020, p. 149–172) call this kind of data “Big Dick Data”, and they suppose that data for digital humanities research needs ethical discipline and context.

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

The example of Clery Act data used in their book calls attention of digital humanists to the necessity of artificial interference with data, otherwise, the mass data would “run the risk not only of being arrogantly grandiose and empirically wrong, but also of doing real harm in their reinforcement of an unjust status quo”.

Opportunities for digital humanities to use AI tools

Because of these problems and more of using AI tools, but the seemingly unstoppable trend of their application in humanities, some see this trend as challenges which could be summed up as “black-box” problem (Rockwell, 2016, p. 15). This mainly shows in two ways: “the first is the disappearance of the author... Ready-at-hand tools become transparent (unnoticed), and the creator’s authorial responsibility for the instrument remains hidden” (Rockwell, 2016, p. 20). The second danger is that entanglement may cause the corruption of humanistic scholarship (Rockwell, 2016, p. 20–21). However, it seems wiser to regard it as opportunities, and there are some fields of digital humanities where AI tools could be applied and forge a broader future for digital humanities. Especially it can take part in the establishment of digital humanities laboratory, which is a new type of laboratory that combines the humanities with digital resources, services and tools (Pawlicka-Deger, 2020, p. 10). This is a new type of human-computer collaboration to some extent, which is very consistent with the discipline of digital humanities as “meeting place” and “trading place” (Svensson, 2012). Moreover, this collaboration between humans and AI can to some extent alleviate the inequality of collaboration between humanities scholars and science scholars, and reconcile the contradictions that arise between the two in terms of research culture, by keeping the two out of direct contact and using AI as an intermediary (Snow, 2012).

It could be possible for digital humanists to use AI to assist themselves to complete the experimental data output. As a matter of fact, most humanists are not as well versed in programming and data manipulation as professionals are, but AI can do most of the complex programming work in

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

digital humanities research projects on command or help humanists in checking the code they write themselves.

Secondly, AI can quickly retrieve, organize and summarize the experimental materials for digital humanists, including professional papers, experimental data, graphs, etc. It can even summarize this material and generate outlines to provide research direction and inspiration for digital humanists. This approach greatly improves the efficiency of humanities academic research and can quickly sift and organize the research materials needed by humanists, largely solving the problem of studying a large amount of literature in the early stages of their research.

Last but not least, AI can help digital humanists to learn and check their research materials and experimental results, like translate or explain terminology more accurately, and check grammar in academic writing. Since digital humanities research approaches are comprehensive and its research topics are diverse, digital humanists often take on a greater workload than traditional scholars when conducting research for their projects. For example, digital humanists are often exposed to a lot of professional terms outside of their own specialty but relevant to their research projects, and AI tools can quickly demystify these abstract concepts and collect the literature on them. Digital humanists usually also need to understand, learn and master some kind of data model in a short period of time, which can be difficult for non-computing academics, and AI tools can provide digital humanities scholars with some of the necessary learning tutorials and demonstrate algorithmic processes. Moreover, the use of AI as a tool for checking the grammar or diction of scientific texts is also becoming a common practice within digital humanities laboratories.

Conclusion

Although ChatGPT is able to write a generally complete essay following the instructions, there were still many shortcomings and the essay on digital humanities that ChatGPT produced could not be considered a real scientific text.

I reflect on the proposed definition of ChatGPT of digital humanities and amend it from the aspects of the nature of the discipline, the way and purpose of research, and the scope of the definition. Digital humanities is an

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

interdisciplinary discipline and has its clear disciplinary boundaries, but emerging disciplines like computational linguistics and information science are more relevant to it. Digital humanists use various kinds of digital tools and combine qualitative and quantitative methods, and they aim to find new research methods for the humanities. There could be two decisive reasons that the authority of humans is irreplaceable in digital humanities: one is creativity and the other is academic ethics. The existence of the former proves that the attitude of research is not only blindly objective, but also requires the inclusion of subjective and judgmental elements. The loss of the latter might cause academic plagiarism. It can even lead to unethical data and findings, which has negative influence on society and academics. Although using AI tools completely to do digital humanities research has risks, application of AI tools in digital humanities should not be seen as a challenge. In fact, it is an opportunity, especially in the fields of establishing digital humanities laboratory, including providing technology assistance of experimental data output to digital humanists, organizing experimental material and working as a tool to learn or check.

In conclusion, it is inevitable that the digital humanities will apply AI tools to research, as dictated by its open, inclusive and diverse disciplinary nature and scope of research. The future is full of uncertainty, but humans must dominate the field of research in the digital humanities and give humanistic meaning to digital projects. In this context, AI tools are providing opportunities for the future development of the discipline.

References

- Daston, Lorraine (2010). *Objectivity*. New York: Zone Books.
- D'Ignazio, Catherine and Klein, Lauren F. (2020). *Data Feminism*. The MIT Press.
- Drucker, Johanna (2011). *Humanities Approaches to Graphical Display*.
- Hayles, N. Katherine (2012). *How We Think: Transforming Power and Digital Technologies*. In: Berry, David M. (ed.) *Understanding Digital Humanities*. London: Palgrave Macmillan UK, p. 42–66.
- Luhmann, Jan and Burghardt, Manuel (2022). *Digital humanities—A discipline in its own right? An analysis of the role and position of digital humanities in the academic*

REVIEW

Tidskrift för ABM | Vol. 8. No. 1, 2023.

Department of ALM, Uppsala University.

landscape. *Journal of the Association for Information Science and Technology*, 73(2), p. 148–171.

Manovich, Lev (2017). 3. Cultural Analytics, Social Computing and Digital Humanities. In: Schäfer, Mirko Tobias and Van Es, Karin (eds.) *The Datafied Society*. Amsterdam University Press, p. 55–68.

Parry, Dave (2012). The Digital Humanities or a Digital Humanism. In: Gold, Matthew K. (ed.) *Debates in the Digital Humanities*. University of Minnesota Press, p. 429–437.

Pawlicka-Deger, Urszula (2020). The Laboratory Turn: Exploring Discourses, Landscapes, and Models of Humanities Labs. *Digital humanities quarterly*, 14(3).

Rockwell, Geoffrey (2016). *Hermeneutica: computer-assisted interpretation in the humanities*. Cambridge, MA: The MIT Press.

Snow, C. P. (2012). *The two cultures*. Cambridge: University Press.

Svensson, Patrik (2012). The digital humanities as a humanities project. *Arts and Humanities in Higher Education*, 11(1–2), p. 42–60.