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Scientific Writing Automation Algorithm: What can it yield in the age of AI and ChatGPT?

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Abstract
The purpose of this article is shedding light on additional insights and information Scientific Writing Automation is able to generate from now on, including this publication in particular, in the age of AI and ChatGPT.
Keywords: *Artificial Intelligence, ChatGPT, Scientific Writing Automation.*

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I. INTRODUCTION

Scientific Writing Automation, an ongoing theoretical project on the potential automation and optimization of scientific writing, in the last years, has shed light on these aspects. Now, with the advent of Artificial Intelligence and ChatGPT, the survival and relevance SWA remains a challenge. What is the future of SWA in the age of Artificial Intelligence and ChatGPT? What can SWA yield in this context? We will try to answer these and other questions in the following sections.

II. THEORETICAL FRAMEWORK

2.1 Scientific Writing Automation

Scientific Writing Automation (SWA), can be defined as an algorithmic system of automatic process/product of writing in the field of science (Alley, 2013; Alvarez, 2019, 2020, 2025; Brown, 2012; Chikuni & Khan, 2008; D'Alleva, 2005; MacArthur et al., 2008; Peat et al., 2013; Wingersky et al., 2008).

2.2 Artificial Intelligence

Artificial Intelligence or AI for that matter, can be conceived as the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience (Britannica, 2026).

2.2.1 ChatGPT

ChatGPT is a software that allows a user to ask it questions using both conversational or natural language. It was released on November 30, 2022, by the American company OpenAI and almost immediately disturbed academics, journalists, and others because of concern that it was impossible to distinguish human-from ChatGPT-generated writing (Britannica, 2026).

III. DISCUSSION

3.1 Initial considerations

Scientific Writing Automation (Alley, 2013; Alvarez, 2019, 2020, 2025; Brown, 2012; Chikuni & Khan, 2008; D'Alleva, 2005; MacArthur et al., 2008; Peat et al., 2013; Wingersky et al., 2008), conceived as an algorithm of a particular kind, is able to generate or produce scientific text by means of a methodology falling within the realm of the implicit. It is based on the conception scientific writing can be automated, which is implied by the very name of the algorithm. That being said SWA is able to generate information not only about scientific topics in general but also about itself, when adequately pre-programmed to perform that function. In this case we are in the position of letting SWA machine roll on its own to see what information it can yield, whether about itself or science as a global matter in general.

Therefore, if we let the machine roll for a while we are ready to output explicitly SWA-based information from now on. In a way, the process has already started but an important point to make is the following: all and every aspect of a publication of this nature is ultimately pre-conditioned by Scientific Writing Automation since itself is the topic and driving generator in particular, of this article's discussion, theoretical

framework and conclusion. What else can be said on the matter at hand? Next sections will shed more light into what we try to explain.

3.2 Product/process nature and momentum of SWA

We can begin with the obvious fact that writing is a product (Brown, 2012; McArthur et al., 2008). However, it is also a process (D'Alleva, 2005; Wingersky et al., 2008) therefore it is both a product a a process (Brown, 2012; McArthur et al., 2008; D'Alleva, 2005; Wingersky et al., 2008). When it comes to scientific writing, the situation is the same: scientific writing is both process and product regardless of what aspect or aspects we are focusing on at a given time.

In that way, Scientific Writing Automation can be taken as a finished product but also as an ongoing process and therefore, it partially depends on the writing momentum itself (Alley, 2013; Alvarez, 2019, 2020, 2025; Brown, 2012; Chikuni & Khan, 2008; D'Alleva, 2005; MacArthur et al., 2008; Peat et al., 2013; Wingersky et al., 2008).

3.3 SWA in the light of AI advancement

From now on, we can consider how an algorithm like SWA, is able to generate scientific text, considering some articles from our own research have been published in regard to this (Alvarez, 2019, 2020, 2025). However, it is also useful to see this research phenomenon in the light of what we currently know as Artifical Intelligence, defined as computer-related ability (Britannica, 2026). In a way, systems like ChatGPT, understood as software allowing natural communication (Britannica, 2026), function like SWA, with the exception the latter is a conceptual and theoretical construct, rather than a computational and fully practical one.

Both ChatGPT and SWA are automatic systems. However, the spirit and conception of the latter, is that we human beings are able to generate our own algorithms without or with minimal help of Artificial Intelligence. The sides to be taken in relation to this can be many, with their own arguments and world views.

3.4 Final reflections on SWA prospects

What is the future of SWA then? We certainly do not know. However, what we can tell is that, with the advancement of AI as we have mentioned, maybe these two systems will interact in ways we are not aware of yet. Most likely, this will be an area of major research interest in the coming years, whether with or without the presence of SWA or even AI, in the form of ChatGPT in this case. How will these systems influence scientific writing in the coming years? How will scientific writing look like in the future in the light of these insights and prospects? Those are questions to be asked at this point, and they will probably have quite interesting and intricate answers in the future.

What we do know for sure, is that SWA produces the very ideas we deal with, at the very writing process/product momentum. However, the final outcome of these final reflections on the future of SWA, is something that only time will tell.

IV. CONCLUSION

Through this article, we have shed light on Scientific Writing Automation and what it can this automatic writing system can yield, in the age of Artificial Intelligence and ChatGPT. Some questions have been opened for future research, especially on the future of automatic scientific writing in the age of AI.

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