

Intelligence in Literature: Beyond the Limits of Human Sagacity*Sujata Anand*

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Abstract

Artificial Intelligence (AI) in literature (prose or poetry) makes us ponder the authenticity of human essence. While we, as writers, draft and redraft our works before finalising the last one, there are applications like Verse by Verse and many other platforms of Generative Literature that create poetry in a fraction of a second. “Indeed, it is capable of doing this, but can it do ‘that’?” renders us a sense of achievement. We call ourselves the master because we created it. The missing ‘that’ in machines makes us powerful. We realise that Alexa can only play the song we ask it to, which makes it a non-human entity, unless, of course, an AI would judge our mood and demonstrate ‘emotions’ through art one day. Voilà, game over!

This paper aims to highlight the essential aspects of AI in the literature that make it a potential to become a part of the traditional (human-written) literature. ‘Aesthetics’ and ‘Didactics’ – the significant objectives of literature being juxtaposed on AI written prose and poetry would undoubtedly clear the air in defining the limits of human sagacity, and whether or not the AI would fill the void of that ‘that’ as far as literature is concerned. Coders and programmers are artists who have managed to say a particular sentence in umpteen ways with various punctuated keys, and so have writers. Hence, the idea of machine-written prose or poetry soon being filled with ‘emotions’ that only we humans possess is catalysing enough to look out for the future outcomes in this new form of literature, Generative Literature.

Keywords: Artificial Intelligence (AI), literature, applications, aesthetics, didactics

Introduction

Is it an aid or an adversity? Artificial Intelligence (AI) is getting better than humans at every step. This question makes us ponder what Freud stated in his essay entitled ‘The Future of Illusion’: “No, our science is no illusion. But an illusion it would be to suppose that what science cannot give us, we can get elsewhere.” With each passing day, we strive harder to ease our work, and AI is only assisting until one day, it will be competent enough to do our tasks better than we do. While we, as writers, draft and redraft our works before finalising the last one, there are applications like *Verse by Verse* and *Project Gutenberg* of Generative Literature that create poetry in a fraction of a second. Soon, the Marlowe in us would, startled and horrified, state:

***“Was this the programme that launched a thousand prompts,
and burnt the essence of human written literature?
Sweet AI, enlighten us with your mechanical kiss!”***

So, let us start by comprehending what literature is. Well, at its core, it’s a medium that writers luxuriate for transferring ideas and thoughts and transcends all limits of time and space. Literature is the essence of human emotions that drive us. The requirement of jotting down these emotions isn’t apparent, but it’s a function ingrained in the kernel of human DNA. We are social beings, and our survival depends on co-dependency and belongingness. Given that, literature is the common ground where all the mortal impulses collide to facilitate the immortal tradition of human culture.

There has always been a noticeable alteration in literature since the troubadours and the bards sang. With the invention of the printing press, everything people heard was accessible to them in writing. Gradually, there were umpteen genres and forms of works that the critics analysed and assessed for years together until the naissance of Generative Literature. At this point, it’s difficult to say whether this new form could produce works that could share the title of being a ‘literary’ work, but the potential possibilities weren’t numbered. Initially, when Artificial Intelligence responded to our emails, it appeared to be ‘artificial’; nonetheless, it commenced to act ‘intelligent’ too when it improvised after understanding our ways of answering or responding to questions. News articles fed with the ‘what’, ‘why’, ‘when’, and ‘how’ were accessible writings that AI did, but they did not merit being literature.

The open-source Artificial Intelligence (2019) created a language model, also known as Generative Pre-trained Transfer (GPT), a model which produces language by using a prediction function. It is programmed after the blueprint of the human brain using neural networks. These neural networks have algorithms that help recognise and comprehend vast amounts of data. There are certain sets of rules and instructions that form patterns in recognition. Just like our brain is a tabula rasa at birth, having no innate ideas, neural networks have no preconceived notion of language but are fed a gigantic corpus of data to grasp the general outlook of what one might expect it to produce. The algorithm is further trained to fabricate the most appropriate chain of thoughts, interlacing it with a tapestry of semantically legible sentences.

This program doesn't understand emotions about those ideas but makes judgments based on what word frequently occurs adjacent to the former word. Following this prototype, it makes decipherable yet somewhat incoherent pieces of language. GPT-3 has 175 billion parameters, making it 17 times larger than GPT-2 and around ten times larger than Microsoft's Turing NLG model. These parameters are the fulcrum of machine learning; think of a model as a hypothesis that uses the given parameters (examples of language, for instance, a web page, a video, or a song) as historical evidence and make predictions accordingly. Adding these parameters results in a more sophisticated system that produces outputs similar to what a human would have put forth. Coders and programmers are artists who have managed to say a particular sentence in umpteen ways with various punctuated keys, and so have writers. Hence, the idea of machine-written prose or poetry is catalysing enough to look out for the future outcomes in this new form of literature, Generative Literature.

Objectives and Research Gap

Any work's 'aesthetical' and 'didactical' elements render it the status of 'literature'. Be it the fables of Jean de la Fontaine or the sonnets of Shakespeare, it all comes down to a work aesthetically evident and didactically present. These are not the essential conditions, but they are the most established ones, whether in the language or the literature. So, this paper aims to analyse specific works of AI-created poetry and juxtapose them to the criteria of literature to assess to what extent the content written by AI is worth calling literature and whether it or does not challenge human sagacity. The research gap demonstrates the lack of comprehension of AI-generated poetry and its purpose, the parameters of its being a work deemed 'literary', and if so, how. With this lacune missing from all the previous research on AI-generated poetry so far, this paper intends to answer some of the problems.

Problematics

There are three questions or problems that we aim to answer:

1. Does AI-written poetry deliver on its promises? In simpler words, is the promise of writing sonnets like Shakespeare realised?
2. How close do the mechanical prompts generated by AI applications get to creating the human essence?
3. Does AI-written poetry challenge the boundaries of human sagacity? In other words, what could be an estimated future of Intelligence in Literature?

Methodology

As far as the methodology of this paper is concerned, the application '*Verse by Verse*' created by Google is to be tested to develop a quatrain after having selected the muses from the given poets to answer the above three questions. Along with this real-time trial run, we would also analyse some of the already created AI content learned scholars have criticised. Literature is everything human, and this research paper seeks to find the human essence in AI-generated poetry.

Analysis and Findings

1. Does 'AI-generated poetry' deliver on its promises? In simpler words, is the promise of writing sonnets like Shakespeare realised?

A very renowned and contemporary poet, Kahlil Gibran, expresses his views about poetry and says¹,

"Poetry is a deal of joy, pain, and wonder, with a dash of the dictionary."

The latter half of his statement created a lot of commotion for people who believed that writing wasn't mechanical but organic, yet it all made sense when the narrative of AI came into practice. What is it, anyway? A bigger dash of the dictionary, with a minor deal of joy, pain, and wonder, was also imitated. Platforms like *Project Gutenberg* or *Bot or Not* have fed thousands of works of the deceased authors to machines to make it generate short narratives.

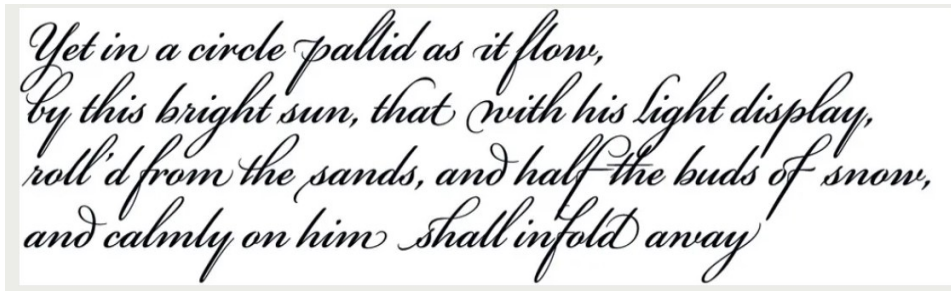
¹ <https://www.writerswrite.co.za/33-quotes-by-poets-on-poetry/> consulted on 07.01.2022

Even though it was an excellent imitation, it was an imitation nonetheless. For instance, one from Bot or Not reads,

*“There is no one else in the world/there is no one else in sight.
they were the only ones who mattered/they were the only ones left.
he had to be with me/she had to be with him.
i had to do this/i wanted to kill him.
I started to cry/I turned to him.”*

From a veteran slam artist’s mouth, this could still be received as emotional and overwhelming, but only if they manage to paint a landscape around it that justifies the presence of these verses in that entire tableau. Otherwise, it only appears to be an ambitious shot in the void aiming at nothing.

There are programs that promise to create sonnets like Shakespeare at the click of a mouse; for example, *Deep-Speare*², a program trained to write sonnets, created the following result:



*Yet in a circle pallid as it flow,
By this bright sun, that with his light display,
roll'd from the sands, and half the buds of snow,
and calmly on him shall infold away*

Source: www.spectrum.ieee.org

This particular sonnet definitely has rhyme, rhythm and report, but it lacks reason. In simpler words, it was aptly a quatrain of a sonnet that has a significant style of rhythm called the iambic pentameter, where 10-syllable lines have a continual stress-space-stress sort of mechanism, giving out a cause that ends up in a couplet with the suggested solution. That’s how Shakespearean sonnets were. Similarly, the basic mechanical structure was present in this quatrain mentioned above, yet this ‘accidental’ creativity doesn’t suffice to be what it aimed to promise. Because the foreseeable couplet would have ended the intrigue these quatrains commenced, but so far, the AI was incapable of bringing up the ‘Reason’ of it, the context that can also be termed as the missing ‘human essence’.

² [This AI Poet Mastered Rhythm, Rhyme, and Natural Language to Write Like Shakespeare - IEEE Spectrum](http://www.spectrum.ieee.org) consulted on 07.01.2022

In a different experiment, Dennis Tang tried out the GPT model to recreate poems of Plath, Frost, and Shakespeare in his essay "The Machines Are Coming, and They Write Bad Poetry." One of the results was hideous yet worth putting up. The following image is the extended version of Shakespeare's Sonnet 18, and the quatrains after the first are AI-generated.

Shall I compare thee to a summer's day?
 Thou art more lovely and more temperate:
 Rough winds do shake the darling buds of May,
 And summer's lease hath all too short a date;
 And the grass is green and the trees are full of fruit'
 And, when the sky is blue and the heat is blazing,
 And the rain is falling upon the fields and the trees,
 But the sun is downcast as when it is rising,
 And the sky is covered with clouds and the land is shrouded by fog,
 And the sky is not bright to behold yet:
 Thou hast not a thousand days to tell me thou art beautiful.

In his essay above, Tang states³,

"At first glance, GPT-2's capacity for imitation is impressive: the diction, grammar, and syntax are all leaps beyond what most of us would expect from a computer. But if you squint harder, the cracks immediately show. Its rendition of the most famous of Shakespeare's sonnets immediately throws rhyme and meter out the window."

In fact, the very link between the summer's day and the lover of the narrator as a metaphor goes missing, as the machine reiterates it for weather followed by a sudden transgression towards the cloudy skies. The author adds, *"And in lieu of Shakespeare's concluding immortalisation of beauty, we get an inversion so perfect it's perverse: Tell me you're beautiful, and make it quick!"*

The advances in programming can potentially bridge the gap between creativity and 'accidental creativity'. To commence with, the deep-learning systems, one of which is the GPT model, are dramatically flexible with their content. Even if they are fed with images, videos, voices, or texts, they have been coded to decode the patterns to provide desirable results. The three steps involved here are the selection of words similar to how Shakespeare wrote, the assurance that the chosen words, when put in a line, have a 10-syllable rhythm, and finally, the presence of a

³ <https://lithub.com/the-machines-are-coming-and-they-write-really-bad-poetry/> consulted on 25.12.2021

rhyiming scheme. With that said, I'm sure Wordsworth would have been very disappointed because for him, 'Poetry was always *'the spontaneous overflow of powerful feelings: it takes its origin from emotion recollected in tranquillity'*⁴, which this machine fails to render.

Hence, the answer to the question asked would be No. No, AI-generated poetry does not render what it promises. Perhaps this is because the promises made by Open AI are way too ambitious and are realised partially. Indeed, the process matches the steps in an experiment, but having had the results juxtaposed with the works of the great poets of all times, we concluded that it lacked the 'human essence', the only element that makes a work 'literary'.

2. How close do the mechanical prompts generated by AI applications get to creating the human essence?

As discussed earlier, the functioning of any application for writing poetry follows specific steps. It doesn't just produce a poem independently; it helps the user procure the sense of 'being a poet' by providing prompts. With each prompt selected, the verse gets created. It is undeniably essential to notice the power this application's user holds. He does not have a say in the process while picking one of the prompts from the options.

Albert Camus, the French absurdist, in his timeless work "*Le myth de Sisyphe*" said⁵,

"The absurd does not liberate; it binds. It does not authorise all actions. 'Everything is permitted' does not mean that nothing is forbidden."

What Camus had predicted in the mid-20th century was that the creators and users of these applications could not notice. When a user picks a prompt from the given 4-5 options, he analyses the potential of it concluding in a plausible verse, however what he doesn't comprehend is the cadre created in those prompts that limits his otherwise *gargantuesque* imagination. With every phrase picked and added to the former phrases, he starts believing that he wrote it, given his time spent being a considerate consumer, and that accomplishment renders him a sense of power, albeit flawed. His acceptance of himself as a poet and a false sense of gratification bind him instead of fetching him liberation.

⁴ <https://interestingliterature.com/2021/02/wordsworth-spontaneous-overflow-of-powerful-feelings-meaning-analysis/> consulted on 27.12.2021

⁵ <https://www.goodreads.com/work/quotes/855563-le-mythe-de-sisyphe> consulted on 07.01.2022

To comprehend all this mechanism, we created a quatrain in *Verse by Verse*⁶ and documented the entire process in the form of images. Starting with the choice of three poets to be considered as our muses out of the 22 poets, the application allows the user to create a quatrain, a couplet or a free verse. After deciding on Emily Dickinson, Robert Frost, and Edgar Allen Poe, we made a quatrain with an ABAB rhyming scheme and ten 10-syllable counts for rhythm. The first line is to be entered by the user, which from our end was “*Silent days and Screaming nights*”, although what followed as prompts was nothing but sheer mockery. The prompts suggested by AI lacked everything intelligent. It is indeed user-friendly and allows writing your verses, so what is the objective of putting up those prompts? The following images are arranged in steps, and the final poem is attached at the end.

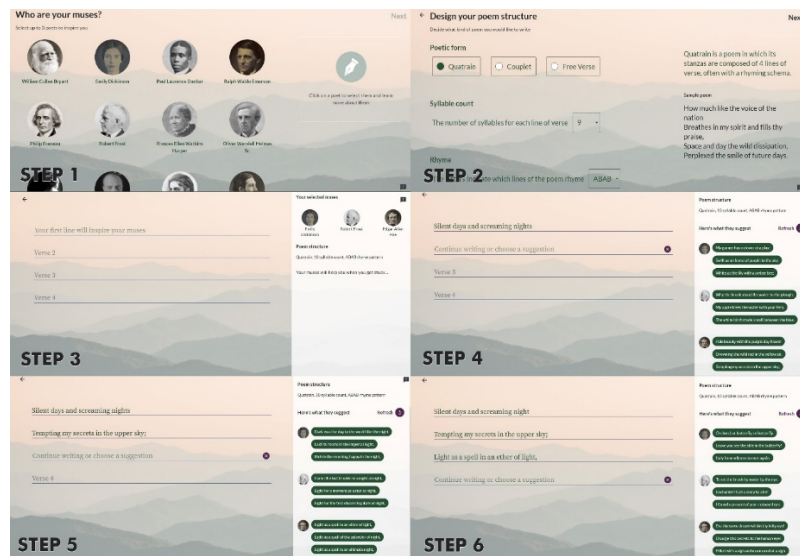


Image 1: The steps involved in creating a quatrain on Verse by Verse

DAY AND NIGHT

Silent days and screaming night
 Tempting my secrets in the upper sky;
 Light as a spell in an ether of light,
 Filled with a sigh and murmured at a sigh.

Written by the user

Inspired by Emily Dickinson, Robert Frost, and Edgar Allan Poe

COMPOSED IN VERSE BY VERSE

Image 2: The final quatrain created by us in Verse by Verse

⁶ <https://sites.research.google/versebyverse/> consulted on 12.12.2021

The prompts are created with enough data fed to program the writing styles of those poets chosen as muses because every suggested prompt follows the rhyme, the rhythm and the report. However, the 'reason' is missing. The backdrop of those loosely hung phrases with nothing in common and nothing to relate to appears to be nothing but a mockery of everything literature ever meant. Hence, the answer to the question we asked about the mechanical prompts generated by AI is: No, it is not at all close to creating the human essence, let alone writing like those legends. This does not yet mean that these programs do not have the potential to bridge that gap, which makes us ask the third question.

3. Does AI-written poetry challenge the boundaries of human sagacity? In other words, what could be an estimated future of Intelligence in Literature?

Regarding the reception of AI-generated content, it is indeed a mind-boggling aid that challenges human sagacity and cognisance. During a webinar on Digital Humanities conducted by Dr Dilip Barad from Bhavnagar University, a survey was conducted wherein 5-6 poems, both AI-generated and human-written verses, were sent to the participants to find out which ones were written by humans. The results were undoubtedly shocking as more than 75 per cent of responses recorded were about the misjudgment of AI-written poetry compared to the ones written by humans. Currently, the machine only renders 'imitated' or 'accidental' creativity, which is challenging enough because, despite the missing human essence, it is a potential aid or adversity. Later, those verses were analysed to the extent of juxtaposing them to content termed as literary, and that is what brought us to the conclusion that the lack of 'reason' or 'context' or the 'human emotions' renders them futile.

Hence, the estimated future of Intelligence in Literature could be an even developed language model that not only formulates prompts but also binds them together in an emotional liaison. It would be a massive aid to writers struggling with linguistic resources, while all they would do is pick up the most appropriate choice from the varied vocabulary and verses. It is easier said than done because it would underestimate human emotions. Assuming that an algorithm would contain every inch of emotion we ever feel is a far-fetched promise. Languages together become inadequate sometimes to put to words the touch of a baby's hand or the warmth of the beloved's kiss, and getting something so unique, only to humans, from a machine puts to quest the human sagacity.

Conclusion

To conclude, it is noticeably remarked that AI-generated content cannot be deemed 'literary'. Since the Generative Pretrained Transfer model is based on a specific algorithm, the poetry formulated by it isn't strictly organic, and resultant verses are more of an equation of words that frequently occur together rather than an organic whole. Functionality precedes aesthetics, dismissing it as a viable producer of sound poetry. One of the critical features of poetry is its aesthetical and didactical value that can only be sourced from the capability of humans to feel emotions. Because the amalgamation of sentiments and syntax is the recipe for a good poem, and the former is missing from the GPT model, it renders the whole operation barren.

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