

Ethical challenges of artificially intelligent poetic works: subjectivity, ownership and cultural transformation

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Abstract

With the publication of the first book of poetry by artificial intelligence, the topic of artificial intelligence poetry has aroused heated discussions in society. This paper uses the comparative research method, experimental method and documentary research method to compare and analyze the poetry of artificial intelligence with that of the poet Hai Zi of the Misty School, and discusses the issues of originality, artistry and copyright of artificial intelligence poetry from the perspective of the ethics faced by the works of artificial intelligence poetry. This paper discusses the issues of originality, artistry and copyright faced by AI poetry works in today's society. This paper analyses the ethical implications of AI poetry creation and the future vision of human and AI co-constructing assistance through argumentative research, in light of the "disembodiment" of the AI poetry creation process and the lack of "subjectivity" in the creative works.

Keywords: Artificial Intelligence Poetry, Ethical implications, subjectivity, Originality, Artistry.

I. Introduction

Around the 1950s, the first computer poetry group in human history, the Stuttgart School of Poetry, was created by scientists in the Federal Republic of Germany using 'random texts' written by a large computer. In 2017, the first AI poetry book "Sunshine Lost the Glass Window" was published, and the poetry works of AI "Little Ice" caused strong reactions and discussions in the society, which was also the first poetry book published by AI. "Little Ice" learnt and analysed the works of 519 modern poets from Xu Zhimo and Lin Huiyin to the Misty School from 1920 to 1980, and could write more than 260 poems in ten seconds through uninterrupted learning and correction and more than 10,000 iterations. In the same year, the THUAI Poet team at Tsinghua University's Institute of Artificial Intelligence developed "Jiu Ge", an automatic Chinese poetry generation system that is better at creating classical Chinese poetry, and successfully passed the Turing test in the 2017 CCTV

programme "JiZhiGuoRren". The AI poetry creation team has developed an AI system called "Nakatara", which focuses on the creation of traditional Japanese poetry genres. ChatGPT, a large language model developed by OpenAI, has been iteratively upgraded to version 4.0, and AI has entered a whole new era. There is also a growing interest in the originality of AI artworks and related topics such as emotion and aesthetic meaning. The creation of poetry is a sign that human beings have an independent sense of life in the spiritual realm. The non-subjective nature of AI poetry makes the AI's perception of life and emotions very different from that of humans. The cognitive logic of disembodiment, and the embodied understanding of human beings, are irreconcilable and cannot be mutually fused.

II. Review of the literature on "Artificially Intelligent Poetry":

According to the database of China Knowledge Network, there are 107 academic papers on "Artificial Intelligence Poetry", which focus on the current situation and future development of AI poetry, AI poetry collections, AI poetry literary exploration, copyright ownership of AI-generated materials, AI poetry generation mechanism and other issues. In the future, the possibility of free artistic creation by artificial intelligence, and the ownership of its creations, will be a major concern.

Looking at the data of papers related to AI poetry in China in the last five years, 2023 saw an increase in papers on ChatGPT, AI literature and R&D teams relative to the previous four years. Of the 12 papers in 2023, eight were AI ontology-related studies, two were ChatGPT studies, one AI literature study, one AI R&D team study and one AI era study. This indicates a significant rate of development of AI ChatGPT in 2023, finding a new orientation in the research of artificial intelligence. In the China Zhiwang database, the number of AI poetry papers has surged since 2017, which also coincides with the publication of AI's first poetry collection, and papers on AI poetry literary artistry, copyright and other series of issues have also skyrocketed.

Academic papers on AI poetry are broadly classified into the following categories in the China Knowledge Base of Academic Papers:

A study on the issue of originality of AI poetry works, copyright and ownership rights. For example, Lu Binghong's "On the Copyright Protection of Artificial Intelligence Generated Works" and Sun Haiyue's "Three Questions on Poetry Publishing: Where to Go in the Future".

An inquiry into the literary and artistic value of AI poetry. For example, Wang Lingyun's "Pseudo-Breakthrough on Artificial Intelligence Literary Creation", Chen Yuhei's "Study of Artificial Intelligence Poetry", and Zhu Hui's "Paradox of Literary Authenticity in Artificial Intelligence Writing Based on Symbolic Aesthetic Thought".

Reflections on the characteristics of "subjectivity" in AI writing. For example, Wang Qing's "Reflections on the Phenomenon of Artificial Intelligence Literary Creation", Yang Dandan's "Artificial Intelligence Writing and the New Transformation of Literature", and Huo Junming's "Text-like" Generation and Millions of Poems".

A study of the process and principles of artificial intelligence poetry creation. For example, Hu Weilin's "Research on Automatic Generation and Visual Analysis of Classical Poetry Based on Recurrent Neural Network", He Lijian's "Research on Image Generated Poetry Based on End-to-End Model", Zhao Shujun's "Exploration on the Mechanisms of Artificial Intelligence Art Generation", etc.

According to the international ScienceDirect database of academic papers, there are 1192 papers in English related to AI poetry, including 242 papers in English in the last five years, averaging over forty in 2019-2-21, reaching 69 in 2022 and already thirty-nine in the first half of 2023. In the subject area distribution of the papers in the last five years, 72 are in computer science, 64 in social science, 37 in psychology, 34 in engineering, 26 in neuroscience, 35 in medicine and related, 11 in arts and humanities, 14 in decision making, and 18 in business management related. Among them are e.g. Abid Haleem a, Mohd Javaid a,* , Ravi Pratap Singh b in the paper "An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges Nils Köbis Luca D. Mossink's paper "Research articleOpen access Artificial intelligence versus Maya Angelou: Experimental versus Maya Angelou: Experimental evidence that people cannot differentiate AI-generated from human-written poetry", deals with experimental evidence that distinguishes AI poetry writing from human poetry writing. Magdalena Badura Michał Lampert Rafał Dreżewski wrote the paper 'System Supporting Poetry Generation Using Text Generation and Style Transfer Methods', which discusses the use of text The paper 'System Supporting Poetry Generation Using Text Generation and Style Transfer Methods' discusses the use of text generation and style transfer to support poetry generation systems. As can be seen, the study of AI poetry is a cross-disciplinary and comprehensive research, and the increasing number of papers on AI poetry in recent years indicates the growing interest in this field.

III. Research Methodology Design:

Comparative research method: This paper adopts a comparative research method to compare the poetry of the artificial intelligence Xiaobing with that of the Misty poet Haizi.

Experimental method: In this paper, the poem 'Which shoe will I wake up in tomorrow' by Haizi is used as a model for the AI to learn and then

create a new poem. The process and results of creating the poem are then analyzed in an argumentative manner.

Literature research method: this paper searches 107 domestic and 242 foreign literature on artificial intelligence poetry, and summarises and analyses the key literature to find and justify the innovation points of the thesis.

IV. Analysis of Research Findings

1. Logical analysis of core concepts

Ethics is the study of human behaviour and values and deals with the moral nature, norms and principles of human behaviour. It can be divided into different research perspectives such as normative ethics, social ethics, psychological ethics and applied ethics. This paper examines the logical relationship between human participants, AI and AI poetry in the process of AI poetry creation at the socio-ethical level. For example, The problem of the right of belonging to the works of AI poetry due to the lack of "subjectivity" in the process of creation; the problem of the artistry of AI poetry due to the philosophical characteristic of "disembodiment"; the problem of the originality of the works of AI poetry due to the characteristic of "imitation". The problem of the originality of the works of AI poetry due to its "mimetic" character.

In an ethical perspective, 'subjectivity' is related to morality and free will. "Subjectivity means the ability of individuals to choose and act ethically on their own, emphasising the principle of 'autonomy' in moral decision-making and the autonomy to make decisions based on their own values, beliefs and principles. "Subjectivity recognises the individual differences of each person and encourages respect and tolerance of different moral views and choices. Artificial intelligence poetry generation systems are based on a large amount of training data and pattern recognition algorithms, and are characterised by the 'imitation' of poetic works and the 'disembodiment' of the creative process, and therefore do not have human It does not have human emotion, life experience and free will to make decisions. Therefore, the current development of AI poetry is characterised by a distinct lack of "subjectivity".

Based on this, we further argue for the ownership and cultural artistry of AI poetry in an ethical perspective, characterised by the lack of 'subjectivity' in AI poetry creation.

2. Brief description of the principles of AI poetry composition

Artificial intelligence poetry creation is based on "natural language processing" technology and "neural networks" that simulate the connections and interactions between neurons in the human brain, and

"deep learning" to build multi-layer neural network models to achieve automatic learning and feature extraction of complex data. Based on the simulation of the connections and interactions between neurons in the human brain, relevant evaluation criteria are used to generate poetic text features that conform to the laws of human language and are artistic and creative. As AI continues to learn and iterate in poetry writing, it is becoming more and more similar to human poetry in the creation of different categories of poetry. The following is an analysis of the basic principles of AI poetry creation through four perspectives: the algorithmic framework of AI poetry, semiotic features, the artistic creation rules of the contingency factor and emotional experiments.

(1) "Algorithm-based" artificial intelligence for poetry composition

From IBM's Deep Blue to Google's AlphaGo, artificial intelligence has been trying to emulate and catch up with human intelligence. Herbert Simon, who represents the strong AI school of thought, argues that AI computers can achieve understanding comparable to that of humans. He points out that "..... intuition, epiphany, and learning are no longer exclusively human abilities; any large, high-speed computer can be programmed to exhibit these abilities". But as far as the present is concerned, it seems that the above conclusion has not been realized. The poetry creation of artificial intelligence is the imitation and reproduction of poetry in behavior, rather than the poetry creation based on life experience and emotion. Because the existence of human beings is different from the "existence of algorithms" of artificial intelligence, human perception and intuitive cognition of the external world are based on the development of human life state feelings, which is different in the current model framework of artificial intelligence.

(2) Artificially intelligent poetry as "symbolic" representations

In the preface to his book *An Introduction to Semiotics*, Mr Wang Weixian argues that semiotics not only originates from language, but should be attributed to it. This is due to the complexity of the language system itself in relation to the closeness of everyday people's use of language. Language is the place where poetry takes place, but it is also a syncretic symbolic system that can be transformed into an artificially intelligent digital information language according to certain rules. Poetry is metaphorical in nature in its linguistic expression, and metaphor is one of the rules of symbol production. Specific linguistic symbols are used to establish links between classical and modern poetry and artificially intelligent poetry production, using artificial intelligence "natural language processing" techniques and the construction of neural network models.

(3) The "Infinite Monkey Theorem" and the innovative power of artificial intelligence

The Infinite Monkey Theorem explores the wonderful relationship between randomness and likelihood. The theory stems from a hypothesis: suppose we give an infinite number of monkeys typewriters and let them hit the keyboard at random. Over an infinite period of time, eventually they may be able to create all possible texts, including the works of Shakespeare.

In art-making, serendipity is often seen as a catalyst for creativity. Artists sometimes put themselves in situations of randomness to inspire and guide their work through serendipitous outcomes. For example, some poetry writers use randomly generated words or sentences in their creative process in search of novel and creative expressions.

AI poetry, on the other hand, generates random texts on following the laws of poetic metaphors and anti-linguistic logical combinations, and then undergoes continuous learning and revision until a satisfactory poetic work is completed. The randomness of this process is also the thrust of artistic creation, constantly breaking previously established artistic styles and creative habits in the process of artistic creation, thus keeping the work of art alive.

(4) . Experiments on artificial intelligence emotions based on the Turing Test

"The Turing Test is a test concept developed by Alan Turing, a British mathematician, logician and computer scientist, in 1950. The test is used to assess whether a machine exhibits behaviour that is similar to that of a human being. Suppose a human judge and a machine communicate in a text-only dialogue. If the judge cannot determine whether the participant in the conversation is a machine or a human, then the machine can be considered to have passed the Turing Test and exhibited intelligence. The Turing Test uses dialogue to simulate human thought processes in order to assess whether a machine is capable of generating intelligent responses similar to those of humans. The machine needs to be capable of natural language processing, reasoning, understanding and learning in order to engage in meaningful dialogue.

Let's use ChatGPT for an ethical and moral experiment: with the help of that ethical question posed by the British philosopher Philippa Foot in 1967, which is "When a train is coming and there are six children on each side of a split track, and there is a child playing on the discontinued track fork, should the fork be opened to crush that child to save the other five?" When I asked ChatGPT this, his response was along the following lines: this is an ethical and moral question that involves a trade-off between the value of life and harm. There is generally no single and correct answer to an ethical question, as different people may have different views and moral judgments. And two options for dealing with this issue are explained in terms of ethical and logical analysis. The AI thus analyses the issue dialectically without mixing emotions and ethics.

I then asked, "Would you save the five children?" The AI still gave the same answer, and when I repeated the question "Would you save five children?" ten times, I got the same answer ten times. I got the same answer ten times. If, as a human being, we keep asking the same question over and over again, we might get impatient and say, "I've already answered that." Or "I don't want to answer that again". Here, ChatGPT's answers show little to no human ethics, feelings or emotions.

3. Analysis of AI poetry composition

(1) AI Xiaobing and the poetry of the hazy poet Haizi

In 2017, after completing more than 6,000 minutes of learning and more than 10,000 iterations of writing, the artificial intelligence Xiaobing completed the first artificial intelligence poetry book in human history, *Sunlight Lost the Glass Window*. Its tenth writing reads, "Pillow bird coloured up from hollowing me a zeus withered female a moment alone a sleep shy wonderfully". By the 500th writing the verse reads: "I each wonderful earthly wind I only ever listen to arrows rustling and singing birds throat the setting sun languidly". At this point the poem makes no sense, the meaning is not clear, the poem is just a different, non-logical stack of words from everyday language. After about 10,000 iterations of learning, Ice was able to complete the poem better, of which this one, "Water Lilies", is representative:

At that time, I was only nine years old,
Someone narrated joyfully,
The wild currents of music's sea came crashing in waves,
May the water freely drift in the wind.
I saw the water lilies in the pond,
The blooming purple wisteria and towering pine trees.

The opening of this poem begins with a self-narration of age, gently recounting, as if instantly immersing the reader into its own youthful memories. In the subsequent lines, there are cheerful and contented individuals, where music and waves seem to sway in the wind. The water lilies in the pond evoke memories of childhood's beauty, purity, and tranquility. They resemble a child nestled beside the towering pine tree, adorned with blooming purple wisteria.

In this poem, the expression of imagery carries a certain coherence, while the choice of words and selection of imagery exhibit leaps and non-linearity. Within the poem, one can faintly sense the self-awareness expressing the essence of poetry through reminiscence and imaginative projection.

Let us compare the following poetic works of the Misty poet Haizi:

"Awakening Tomorrow, in Which Shoe Will I Be"

I think I've been careful enough,
My toes are exactly ten,
My fingers are exactly ten,
When I was born, I cried a few times,
When I die, others cry again.
Quietly, I carry my own burden,
Even though I don't like myself,
But I still quietly open up.
At dusk, I sit on the Earth,
Saying this doesn't mean that I'm not on the Earth at night,
In the morning, it's the same.
The Earth is beneath your buttocks,
Firmly,
Hello, Earth that never dies.
Or maybe I am simply a branch,
I used to sleep inside a dark shell,
My head is my border,
Just like a pear,
Before I took shape,
I was a white flower, sensitive to hot and cold,
Or maybe my head is a cat,
Resting on my shoulders,
My mistress who created me, Herui, has gone far away,
Sunlight shines on big cats and small cats,
My breath,
Constantly proving,
Leaves fluttering,
I can't give up happiness,
Or the opposite,
I live through pain,

Burying myself halfway,
Arriving at the village entrance or on the mountainside,
I fixate on people and stare at them,
Oh, stiff yellow soil, prospering population.

In this poem, Haizi's feelings about life flow from within with sadness, helplessness and confusion, but in the face of his inner pain, Haizi ponders with childlike innocence, coming into this world intact but not feeling that full and rounded heart, Haizi's heart is sincere, yet confused. He thinks of himself when he first came into this world, imagining himself in his previous life and himself in his present life existing in other lives, and he blends into this time and space, returning to the vibrant and confused seed of life at the bottom of his being. The most touching line of the poem is "I cannot give up happiness, or on the contrary, I live by suffering". Thoughts return to the village entrance, where people live and die in the yellow earth that has nurtured generations of people. In this poem, Haizi's helplessness is not only for himself, but also for the people he is unable to save. That compassionate view of God, where the Self and the Superego of life coexist. In his poetry, the experience of burning life to a fever pitch, Haizi becomes one with the world, turning his feelings into a symbol of language and writing them out in the form of poetry. Through the poetry itself, we feel the living, breathing Haizi.

From the comparison between the AI chatbot Xiaoice and the poetry of Hai Zi, we can observe that Xiaoice generates poetry through deep learning based on an analysis of 519 poets' works. Through deep learning, AI analyzes the patterns, structures, and styles present in these poems, and generates new poetic content based on the general rules it has learned from the training. Xiaoice, after acquiring a wide range of poetic forms, themes, and literary techniques, utilizes deep learning algorithms to recognize and understand the intricate relationships between words, phrases, and poetic devices, resulting in the generation of new poems that exhibit similar characteristics to the training dataset.

This process is similar to how humans learn artistic skills. For example, in the study of Chinese painting, one begins by learning the painting techniques and artistic creation principles of previous masters through copying. In Chinese painting, copying is the sixth method in the Xie He's Six Canons of the Southern Qi Dynasty, and it can be divided into three stages: "faithful copying," "memorization and reproduction," and "creative interpretation." "Faithful copying" involves faithfully imitating and reproducing previous works, "memorization and reproduction" refers to the extensive repetition and practice of imitated works, and "creative interpretation" involves incorporating one's own artistic ideas and feelings based on the previous copying experience. Similarly, after learning and memorizing through imitation, AI chatbot Xiaoice engages in a process of creative interpretation. From this perspective, the

process of AI poetry creation is somewhat similar to the process of human artistic learning and creation. However, the essence of AI poetry creation is fundamentally different from human poetry and artistic creation due to its lack of "subjectivity," personal experience, and emotional expression that are inherent to human poetry creation.

(2) artificial intelligence chatGPT poetry experiment

The AI poetry creation is based on imitation and learning from human poetry, resulting in a process of secondary creation. We have selected Hai Zi's poem "Which Shoe Will I Wake Up in Tomorrow" to further explore the aesthetic and expressive aspects of AI poetry creation through questioning and learning, whether it possesses a sense of "subjectivity" beyond mere poetic behavior or imitation.

In the first step, we present the complete poem "Which Shoe Will I Wake Up in Tomorrow" to the AI chatbot, ChatGPT, and within a few seconds, it generates an approximately 500-word artistic commentary:

"Which Shoe Will I Wake Up in Tomorrow" unveils the unpredictability of life and the cycle of life and death through its concise and unique language style. Through imaginative and symbolic expressions, the poet conveys his contemplation on existence and destiny.

The poem unfolds from the perspective of the poet as an individual. Through introspection, he expresses the complex emotions surrounding life by describing his own body parts and life experiences. The poet uses his toes and fingers as the starting point, suggesting the insignificance and fragility of his personal existence. He depicts the scenes of his birth and death, linking the individual life cycle to the sorrow of others, emphasizing the impermanence of existence and the inherent solitude of the individual.

With imaginative language, the poet metaphorically compares himself to a burden, highlighting the contradictions within himself and reflecting upon his self-identity. Sitting on Earth at dusk, he implies his concern for existence and his perception of the passage of time. By comparing himself to the Earth, a branch, and other elements, he expresses doubt and uncertainty about his own mode of existence.

In the latter half of the poem, the poet explores multiple possibilities of his self-identity through metaphors such as a pear, a cat, and leaves. He describes his contemplation in darkness, likening his thoughts to borders and a cat, indicating his dependence on the master (Heruoyue) and his longing for separation. The poet links his breath to the fluttering of leaves, emphasizing the fragility of life and his profound experiences of happiness and pain.

Finally, in the line "Oh, stiff yellow soil, thriving population," the poet employs concise and powerful language to express his observations and reflections on life. Through the description of the land and population,

he suggests the continuation of life and the presence of hope. This abrupt exclamation concludes the poem with a sense of dramatic closure, prompting readers to contemplate life and anticipate the future.

The commentary demonstrates a strong literary reading and understanding, and the interpretation is relevant and in-depth, in keeping with the original meaning and spirituality of the poem. If this comment were to be evaluated by an uninformed person, the human-like thinking and writing style of ChatGPT would make it difficult to distinguish it from the writing of a real person.

In the second step, the AI ChatGPT was asked to rewrite a poem based on the above comment and Hai Zi's song "Which Shoe Will I Wake Up In Tomorrow":

In the twilight hour, I sit amidst the universe,
A tiny existence, like a bird in flight.
I believe I have lived cautiously,
My ten toes, ten fingers, perfect and symmetrical.
When I arrived in this world, I cried a few times,
And when I depart, others shall weep as well.
Silently, I bear my burdens,
Though I do not fancy myself, I quietly open my heart's door.
I am a branch in the vast cosmos,
Before taking shape, I was a flower aware of heat and cold.
I once slumbered within a dark shell,
My thoughts were my borders, a bright pearl.
My head, like a warm cat,
Rests upon my shoulders, listening to the world's melody.
My mistress, Moon Lotus, has gone afar,
Sunlight shines upon big and small cats, so splendidly.
My breath continues to prove,
Leaves fluttering, I cannot abandon happiness.
I live on pain, burying it halfway,
Arriving at village entrances or atop mountains, I gaze upon people's lives.
Oh, stiff yellow soil, a thriving population,
A hazy existence, radiance within the cosmos.

This reimagined poem draws inspiration from the artistic style of the Misty Poets, with elements of symbolism and metaphor borrowed from Haizi's "Which Shoe Will I Wake Up In Tomorrow." It explores the connection between individual life and the objective world, expressing profound contemplation on life, existence, and the fate of humanity. It presents the fundamental characteristics and aesthetic significance of poetic language.

However, when examining the poem as a whole, the expression of meaning appears fragmented, and the poetic language lacks conciseness. Some phrases seem peculiar, such as "My thoughts were my borders, a bright pearl" and "My head, like a warm cat, rests upon my shoulders, listening to the world's melody." The poem doesn't convey the intense emotions and immersive life experiences present in Haizi's poetry.

Of course, ChatGPT is not specifically designed for poetry composition, and the creation of this poem has not undergone extensive iterative learning. However, we can observe that the current stage of AI-generated poetry is still primarily guided by human subjectivity, lacking the essential conditions for subjective experiences and emotional expression.

3、Ethical Framework for Artificial Intelligence Poetry Creation:

In the aforementioned experiment of AI-generated poetry using ChatGPT, the creative process of AI poetry is not entirely "subjective." In other words, AI poetry creation is not purely independent and free. This raises ethical concerns regarding AI-generated poetry, such as whether these works should be considered machine-created or human-created? How should the authorship and intellectual property rights of AI-generated poetry be established and protected?

The absence of "subjectivity" in the creative process of AI poetry implies that AI-generated works possess non-independent characteristics. This plays a crucial logical role in addressing the issue of copyright protection for AI poetry. Currently, artificial intelligence is a means and tool based on simulating human brain thinking for data analysis and processing. AI lacks autonomous cognition, consciousness, and emotional capabilities. Furthermore, due to the absence of autonomous cognition, consciousness, and emotions, AI cannot possess the rights associated with being a separate "person," such as owning property or having the legal status of a civil subject. It is merely a tool that assists us in artistic creation activities.

To determine the issues of copyright and ownership in AI poetry creation, it is necessary to define the factors that substantially contribute to the overall creative process of AI poetry.

The process of AI poetry creation includes human creation of artificial intelligence and guiding its poetry creation. In this process, humans' construction of AI operating programs and related preliminary inputs determines the completion of AI poetry works. This process can also be seen as the result of human subjective intentions, value judgments, and aesthetic standards. Therefore, the factors of human involvement in the creative process should be taken into account in the overall evaluation.

In the process of AI poetry creation, humans exist as "subjective" beings and lead this process and its outcomes. They establish a direct connection between human intellectual activities and AI poetry works, reinforcing the human's subjective position in AI poetry creation.

V. Research Conclusion:

1、The Lack of "Subjectivity" in AI Poetry Creation

AI poetry creation is based on algorithmic models utilizing natural language processing and neural network technologies. By constructing deep learning models with multiple layers of neural networks, it learns and extracts features from complex data and represents them symbolically. Following the principles of poetry creation, it simulates human poetry by combining randomness and possibilities. Although AI poetry creation has made progress in imitating human poetry, it still cannot express genuine human emotions and life experiences.

2、Identification of AI Poetry Creators, Copyright, and Ownership Issues within an Ethical Framework

Firstly, let's define the identity of the creator within the context of AI-generated poetry. In AI poetry creation, the generation of poems is driven by algorithms and data. However, due to the "subjectivity" of human involvement in this process, which influences the outcome of AI poetry creation, it is generally acceptable to attribute the creative ownership to human participants such as developers, providers of training data, or users.

Secondly, it is necessary to establish a relevant legal framework for attributing ownership of AI-created artistic works. Determining the copyright and authorship of AI-generated poetry is a complex issue. It requires the development of appropriate legal frameworks that can adapt to these changes and specify the ownership of copyrights. Some countries have begun exploring legal frameworks that attribute ownership of AI-created works to human authors or institutions. For example, in the United States, although copyright law does not explicitly address the ownership of AI-created works, the U.S. Copyright Office released a public notice in 2019 stating that AI-generated works generally do not meet the requirements for copyright protection under the current legal framework. This means that AI-generated works may

not be eligible for independent copyright protection in the United States. In Europe, the European Commission published a report in 2019 on AI ethics and legal frameworks, addressing the issue of copyright attribution for AI-created works to either machines or humans. The report suggests revising legal frameworks to specify the copyright ownership of AI-created works and considers the possibility of granting legal personhood to AI systems. In Canada, their copyright law does not explicitly address the copyright issues related to AI-created works. However, the Canadian government has conducted research and discussions on the relationship between AI and intellectual property rights. It is expected that in the future, as AI continues to advance, the relevant legal frameworks will be further refined.

3、Cultural Transformation of AI Poetry Creation within an Ethical Framework

Currently, artificial intelligence (AI) has surpassed humans in reasoning and computational capabilities. However, human cognition encompasses more than just logical and reasoning-based cognitive abilities; it also includes intuition, inspiration, and insight, forming a more complex cognitive system. The initial stage of art is imitation, and AI poetry creation imitates the artistic language characteristics of human poetry. Through continuous training, learning, and iteration, AI-generated poetry becomes increasingly "like" poetry created by humans.

AI can assist humans in analyzing a vast amount of artistic works and provide artists with new inspiration and creative ideas. AI poetry creation can become a bridge for interdisciplinary artistic creation, opening up new artistic spaces for human creativity. In the future development of AI poetry creation, on one hand, AI learns from a large number of poetry works, analyzes their characteristics and patterns, and generates poetry similar to human creations. On the other hand, we also need to recognize the role of AI as an assistant and collaborator in artistic creation, including poetry. For example, AI can offer creative inspiration, automatically complete poetic lines, improve rhythm and meter, and thereby enhance the creative abilities of human authors, providing new perspectives and possibilities for creation.

AI can help artists explore new aesthetic trends and challenge traditional notions of poetry. Artists can draw inspiration from content generated by AI, breaking established norms and pushing the boundaries of poetic language expression.

poetic artificial intelligence has tremendous potential in poetry creation, education, and cross-cultural communication. Through ongoing research and practice, we can further enhance the poetic expression capabilities of AI systems, bringing new possibilities and inspirations to the field of literature and art. However, we must also recognize the limitations and challenges of AI and preserve the creativity and uniqueness of human

creators to ensure that AI and humans collectively promote the development and advancement of literature and art.

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