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English Poetry Generated by Artificial Intelligence: A Stylistic Analysis and Exploration of Literary Value

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Abstract: With the rapid development of artificial intelligence technology, algorithm-driven text generation tools have been widely applied in the fields of art and literature, making AI-generated English poetry an emerging topic in literary studies. This paper aims to analyze the textual features of AI-generated English poetry from a stylistic perspective and explore its literary value and limitations. By selecting multiple AI-generated poems, the study employs linguistic and stylistic frameworks, including keyword extraction, syntactic analysis, and prosodic pattern analysis, to investigate the grammatical structures, rhythmic patterns, and rhetorical characteristics of these texts. Through comparative analysis with human-authored poetry, the research examines AI-generated works in terms of thematic presentation, artistic expression, and emotional conveyance. Results indicate that while AI is capable of producing syntactically coherent and rhythmically appealing poems, significant gaps remain in terms of thematic depth, emotional authenticity, and rhetorical complexity compared to human poetry. Furthermore, the paper discusses the potential and challenges of AI-assisted creativity from the perspective of human-machine collaboration, highlighting its role in inspiring literary innovation and redefining the boundaries of poetry. Findings offer theoretical insights into the broader exploration of AI's application in literature and open new avenues for interdisciplinary research between literature and technology.

Keywords: AI-Generated Poetry; English Poetry; Stylistic Analysis; Literary Value; Human-Machine Collaboration

1. Introduction

1.1 Research Background and Significance

The rapid development of artificial intelligence (AI) is profoundly influencing various fields, particularly in art and literature. In recent years, advancements in text generation technologies based on deep learning have garnered widespread attention for their application in literary creation. English poetry, as a traditional and highly artistic literary form, has become a crucial experimental domain for AI-generated texts. This phenomenon not only challenges the boundaries of traditional literary creation but also prompts reconsideration of the essence of literature and the roles of creative agents. Exploring the stylistic features and literary value of AI-generated poetry from a combined technological and literary perspective can inspire new modes of human-AI collaborative creation and promote innovative applications of AI in artistic domains.

1.2 Literature Review

Internationally, substantial research has focused on the development and application of text generation technologies. For instance, OpenAI's GPT series has demonstrated remarkable capabilities in generating natural language texts, with significant consistency in linguistic fluency and rhythmic structure in poetry [1]. Meanwhile, some scholars have analyzed AI-generated texts from a literary criticism perspective, highlighting their creative potential while noting deficiencies in emotional expression and literary depth [2].

In China, related studies have emerged relatively recently, with a primary focus on the generation of classical poetry and the dissemination of traditional culture using machine learning techniques. However, scholarship on the stylistic analysis of AI-generated English poetry remains limited, especially regarding literary value assessment

and the potential for human-AI collaborative creation. This presents a fertile area for further exploration.

1.3 Research Objectives and Methodology

This study aims to investigate the linguistic, rhetorical, syntactic, and rhythmic characteristics of AI-generated English poetry through stylistic analysis, assess its literary value, and uncover its potential and limitations in artistic expression. A multidimensional analytical approach, combining quantitative and qualitative methods, is employed to conduct an in-depth examination of AI-generated poetic texts. By comparing these with human-authored poetry, the study seeks to identify unique advantages and shortcomings of AI-generated poetry, providing a theoretical foundation for the future development of human-AI collaborative creativity.

2. Technological Foundations of AI-Generated English Poetry

2.1 Principles and Development of Text Generation Models

The creation of AI-generated poetry relies on advancements in deep learning models, particularly autoregressive models (e. g., GPT series) and encoder-based models (e. g., BERT). These models, trained on large-scale corpora, learn grammatical rules, rhetorical structures, and contextual relationships. During generation, the models predict probabilistic word sequences to form grammatically coherent poetry. For example, GPT-3, trained on extensive English literary works, can emulate specific styles and rhythms of human poetry [1].

Additionally, researchers have optimized poetry generation models by designing specialized loss functions and applying constraints, such as rhyme schemes and line lengths. These enhancements improve the poetic quality of the generated texts, bringing them closer to human creations.

2.2 Technical Features and Limitations of English Poetry Generation

AI-generated English poetry exhibits notable strengths in form and linguistic fluency. For instance, models can produce rhymed and semantically coherent texts due to their ability to learn from large corpora. However, technical limitations remain evident.

First, AI struggles to autonomously select profound thematic directions, often producing content that stays at a general or superficial level. Second, its emotional expression lacks authenticity and fails to convey the personalized emotional experience of human creators. Lastly, rhetorical complexity is limited, with advanced devices such as metaphors and symbolism being relatively scarce. These limitations suggest that AI-generated poetry cannot yet fully replace human creativity.

3. Stylistic Analysis Of AI-Generated Poetry

3.1 Rhetorical and Linguistic Features

AI-generated poetry demonstrates certain patterns in rhetorical usage. Common devices, such as metaphors and personification, frequently appear in texts generated by GPT-3. However, their complexity is often inferior to that of human poetry. For instance, AI-generated metaphors tend to be straightforward and lack multi-layered imagery or deeper meanings, likely due to the model's limited understanding of cultural contexts and complex logical relationships. A corpus analysis of AI-generated poetry reveals a reliance on highly generic vocabulary, reflecting the model's constrained capacity for linguistic innovation.

3.2 Syntactic and Grammatical Analysis

In terms of syntax, AI-generated poetry is marked by high grammatical accuracy. Models generate grammatically correct sentences based on learned rules from training corpora, exhibiting clear and logically coherent structures. However, this grammatical precision often results in a degree of "mechanicalness, " as sentence structures tend to lack variability and creativity. For instance, poetic constructions such as inversions and ellipses, which are commonly employed in human poetry to enrich stylistic diversity, are less frequent in AI-generated texts, resulting in a more rigid and uniform style.

3.3 Rhythm and Prosody Patterns

Rhythm and prosody are essential elements of English poetry. Analysis of GPT-3-generated texts shows that the model can somewhat imitate traditional poetic rhythmic structures,

such as rhyme schemes (e. g., ABAB or AABB) and metrical patterns (e. g., iambic pentameter). However, these rhythmic features are primarily statistical imitations rather than a result of deeper poetic aesthetics. Consequently, many AI-generated poems exhibit overly rigid prosody, lacking the spontaneity and flexibility inherent in human improvisation. Additionally, the pursuit of rhyme sometimes leads to semantic incoherence, undermining the overall poetic quality.

4. The Literary Value of AI-Generated Poetry

4.1 Thematic Presentation and Artistic Expression

The integration of modern AI technology introduces new possibilities for poetry creation but also highlights certain limitations in thematic depth and artistic expression. AI-generated poetry heavily relies on the training data of its algorithms, resulting in themes often derived from commonly encountered topics in large-scale corpora. For instance, OpenAI's GPT-3 model, trained on diverse literary works, frequently generates universal themes but lacks the subjective perspective and individuality of human poets. This reflects its limited ability to deeply explore literary themes.

In terms of artistic expression, AI-generated poetry demonstrates a commendable capacity for fluent linguistic organization and a certain degree of creativity in rhetorical devices. For example, GPT-3-generated poems exhibit proficiency in rhyme schemes, rhythmic structures, and visual imagery through devices like personification and metaphor to create artistic impressions. However, due to the absence of emotional experience and intellectual depth, these works fail to achieve the innovative artistic expressions often seen in human poetry, which are deeply rooted in complex social and cultural contexts.

4.2 Emotional Conveyance and Reader Experience

Emotional conveyance is a key element in establishing resonance with readers. While AI-generated poetry mimics emotional patterns through linguistic techniques, its expressions often lack authenticity. This limitation stems from the non-emotional nature of AI, as the generated verses are based on linguistic predictions rather than genuine emotional expression from a creator.

Studies show that readers frequently perceive AI-generated poetry as mechanical due to its lack of emotional depth. For instance, in an experiment comparing AI- and human-generated poems, participants rated AI works lower in emotional impact and resonance [1]. Despite this, AI-generated poetry can still offer aesthetic experiences to some readers through its linguistic fluency and structural coherence.

4.3 Limitations and Debates on Literary Value

The literary value of AI-generated poetry remains a contentious issue. Proponents argue that AI introduces new possibilities for literary creation, such as producing works of literary merit within short timeframes, thereby expanding the boundaries of creative writing. However, critics contend that AI lacks creative thinking and genuine emotional experiences, leading to a deficiency in the profound intellectual depth often found in human-authored works.

The debate hinges on established criteria for literary value. Traditionally, it encompasses not only linguistic artistry and emotional depth but also the cultural and personal context of the author. AI-generated poetry, lacking the support of such complex contexts, struggles to achieve equivalent significance. Moreover, its production involves a degree of randomness, making it difficult to interpret the output as genuine creativity, even when aesthetically appealing.

5. Potential Of Human-AI Collaboration In Poetry Creation

5.1 Inspiring Creative Ideas

The development of AI fosters the emergence of collaborative creation models, offering new sources of inspiration for poetry. Many poets have already begun using AI-generated verses or fragments as raw material for their own creative processes, drawing from these outputs to reimagine traditional forms of artistic exploration.

In practice, various literary experiments have utilized AI as an assistive tool. For example, Google's "PoemPortraits" project generates uniquely styled poetic fragments based on user input, encouraging users to integrate them into

their original works. Such initiatives highlight the potential of AI to inspire creators by providing diverse linguistic combinations and expressive possibilities, making AI an increasingly valuable tool in the creative process.

5.2 Challenges in Redefining Creative Boundaries

While the human-AI collaborative model opens new possibilities, it also presents challenges. First, compared to traditional literary creation, AI-generated poetry often exhibits a "technical" quality, characterized by formalized language that may lack emotional and intellectual complexity. A key challenge for creators is to maintain personalized expression in the collaborative process.

Second, AI-generated poetry is inherently constrained by its dependence on training corpora, which limits its ability to explore uncharted literary dimensions. For poets seeking to push the boundaries of creative expression, this reliance on existing patterns poses a potential obstacle. Furthermore, ethical and legal issues, such as copyright and ownership of AI-generated works, remain unresolved and could impact the motivation of creators.

Despite these challenges, the collaborative model offers substantial experimental opportunities for poetry. By refining generation models and enhancing collaboration mechanisms, future AI-assisted literary creation may achieve greater integration of technical sophistication and artistic innovation.

6. Conclusion

This study, through stylistic analysis and exploration of literary value, reveals the characteristics of AI-generated poetry in terms of linguistic structure, rhetorical features, and artistic expression. Findings indicate that while AI-generated poetry demonstrates high levels of fluency and structural precision, it falls short in thematic depth and emotional authenticity. Although its literary value has yet to reach the heights of human-created works, AI provides a novel avenue for diversified literary exploration. Additionally, human-AI collaboration showcases immense potential, paving the way for new possibilities in poetry creation.

Future research should focus on several key areas. First, improving the emotional and contextual processing capabilities of text generation models can enhance the artistic and emotional depth of AI-generated poetry. Second, exploring innovative mechanisms within human-AI collaborative frameworks can provide creators with more efficient tools for interaction. Lastly, attention should be paid to the socio-cultural impact and ethical considerations of AI-generated works, particularly regarding copyright and ownership. Through interdisciplinary research, AI's application in literary creation holds promising prospects for further development.

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