Original Research Article

Research on the Pluralistic Transformation of Network Literature Driven by Artificial Intelligence

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Abstract: With the rapid development of the Internet and artificial intelligence, the cultural industry has ushered in unprecedented changes. This paper explores how artificial intelligence can help writers break through creative bottlenecks and broaden their creative horizons to adapt to diverse cultural needs. Based on this, this paper briefly analyzes the technical support of artificial intelligence in the expansion of genre and the practical application of artificial intelligence in the creation of network literature, etc. The research of this paper is not only beneficial to the creation of writers, but also provides a reference for the development direction of cultural industry.

Keywords: Artificial intelligence; Network literature; Genre expansion; Cultural industry

1. Introduction

In recent years, with the popularization of the Internet and the booming development of the cultural industry, network literature has gradually become an important part of popular cultural consumption. However, with the constant change of readers' cultural needs, the traditional way of literary creation has gradually exposed problems such as single subject matter and lack of innovation. Due to the limitations of personal knowledge and experience, it is difficult for writers to break through the constraints of traditional genres, and they are unable to meet the diverse reading needs of readers. In this context, the introduction of artificial intelligence technology brings new opportunities and challenges for literary creation.

2. Status of Research

2.1. Current Status of the Development of Cyberliterature

Network literature, as an emerging literary form, has made remarkable development in China's cultural market in recent years.2024 In February 2024, the Chinese Academy of Social Sciences Institute of Literature released the "2023 China Network Literature Development Research Report", which shows that as of the end of 2023, China's network literature reading market reached 40.43 billion, up 3.8% year-on-year The network literature IP market size has dramatically jumped to 260.5 billion yuan, a year-on-year increase of nearly 10 billion, and the online literature industry ushered in a 300 billion yuan market. The scale of China's online literature authors reached 24.05 million, the number of online literature works reached 36.2 million, and the number of online literature users reached 537 million up 9% year-on-year. The publication of this data not only proves the important position of online literature in China's cultural market, but also reveals its huge commercial potential and growth space[1] Meanwhile, the report focuses on the multifaceted impact of artificial intelligence on the online literature industry, arguing that artificial intelligence is setting off a large-scale and far-reaching change in the way content is produced[2] .

2.2. Current Status of Artificial Intelligence Research in the Field of Online Literature

2.2.1. Current Status of Domestic Research

In recent years, scholars have carried out a lot of research around the combination of network literature and artificial intelligence. Han Moyong[3] thinks that database is the typical structural mode of the "new genre" of network literature, and the production process of AI works is characterized by database. At the same time, he pointed out that AI creation should be categorized as machine text in the "new genre" of network literature, and the main body of its creation is the human-machine community. Wang Zecheng and Meng Fanshao[4] propose that in the field of network literature criticism, we can explore the power of artificial intelligence and utilize its expertise in reasoning to evaluate network literature works. Deng Zhen and Liang Xiaobo[5] take AI-enabled online literature publishing as a starting point, pointing out that the use of AI technology can effectively reduce publishing costs, improve publishing efficiency, and further optimize the decision-making of publishing operations. Song Aman[6] thinks that literature has shrunk under the background of the era we are living in, and the richness and uniqueness of the subjective experience is being challenged, leaving aside the external factors. The flattening of the creator's subjective experience has shaped a series of programmed and routine cultural products, and the audience under the influence of such works has gradually lost its aesthetic patience, and instead pursues instant sensory experience or simply melts into some kind of emotional resonance.

2.2.2. Current Status of Foreign Research

Yan Wang[7] proposes that Western online literature was formed in the 1980s, and entered a climax in the 1990s, which has continued to this day and shown an increasingly prosperous trend. Smith, J.[8] proposes that artificial intelligence has a wide range of applications in literary creation and generation, which can automatically generate poetry, novels, and even news reports, and that this technology not only improves the efficiency of creative work, but also offers new creative ideas for writers. provides new creative ideas. At the same time AI can help researchers analyze large amounts of literature to discover patterns, themes and trends. This helps to better understand the evolution and impact of literature. Nasir Ahmad Zargar[9] believes that AI can assist writers in generating literary works, such as automated summaries, composing poems and novels, as well as can help researchers analyze a large number of literary works to discover patterns, themes, and trends. Zhice Zhao and Lei Zhang[10] In their discussion of the innovative potential of artificial intelligence technology innovative potential for the cultural and creative industries, and explore how AI technology can be integrated into the cultural and creative industries to create more innovative and competitive works.Yan Hu[11] explores the impact of large-scale language modeling AI (e.g., GPT-4) on literary creation, while examining the potential for new literary genres and styles, with attention paid to issues such as authorship, originality, and bias.

To summarize, the application of artificial intelligence in online literature creation has increasingly received attention from the academic community. Scholars at home and abroad have explored its potential in creation, criticism, publishing and other aspects, but there is a lack of systematic and in-depth research on how AI deeply participates in and expands the creative potential of writers. Therefore, this paper aims to explore, through in-depth research, how AI can help writers break through the bottleneck of creation and promote the diversified development of the cultural industry, so as to provide new research perspectives and impetus for the field.

3. Current Status and Challenges of Online Literary Creation

Despite the prosperity of online literary creation, it also faces many challenges. First of all, many authors,

due to the limitations of their personal knowledge and experience, find it difficult to break through the traditional genres and create novel contents. This situation not only leads to repetition and imitation of genres, but also makes readers gradually feel aesthetic fatigue, which limits the long-term development of Internet literature. Secondly, the uneven quality of online literature is also a prominent problem. Due to the low threshold of creation, some works are obviously lacking in plot construction and characterization, thus affecting the overall quality of the works. In addition, Internet literature is also facing challenges in copyright protection and profit model, which have constrained the further development of Internet literature.

Against the background of people's growing cultural demands, writers need to constantly broaden their creative horizons and explore new genres and styles to meet the diversified needs of readers. However, it is difficult for traditional creative methods to meet this requirement, and there is an urgent need for new technical means to help writers break through the creative bottleneck. The introduction of artificial intelligence technology provides a possible solution to this problem. By analyzing and learning from a large amount of literary data, artificial intelligence can provide writers with diversified creative materials and inspirations, helping them break through the limitations of genres and create more innovative and attractive works.

4. Analysis of the Potential of Artificial Intelligence Technology for Literary Creation

The application of Artificial Intelligence (AI) technologies in literary creation is mainly in the areas of idea generation, characterization and plot design. The following is a detailed analysis of these technologies:

4.1. Technical Overview -- NLP

Natural Language Processing (NLP): NLP technology is capable of understanding and generating human language by analyzing and processing natural language text data, and it can help writers generate dialogue, descriptions, and plots that provide creative inspiration.

4.2. Technology Overview - GAN

Generative Adversarial Network (GAN): GAN is a deep learning model that can generate high-quality new data through the adversarial training of generative and discriminative networks, and the application of GAN in literary creation includes the generation of new storylines and characterizations, which makes the works more diverse and innovative.

5. Preliminary Application of Artificial Intelligence in Literary Creation

5.1. Text Generation

Automated writing tools: Initial AI writing tools were able to automatically generate simple textual content, such as news reports and product descriptions. For example, OpenAI's GPT series of models can generate smooth and natural text for a variety of writing tasks.

Short story creation: some AIs are already capable of creating short stories, generating storylines with some logic by entering keywords or themes.

5.2. Grammar and Spelling Proofreading

Grammar checking: AI tools such as Grammarly can automatically proofread text for grammatical errors, spelling mistakes, and sentence structure issues, helping writers improve the accuracy and readability of their

text.

Stylistic suggestions: Some tools can also provide stylistic suggestions to make writing more compatible with specific tone and style requirements.

5.3. Translation and Multilingualism

Automated Translation: AI translation tools such as Google Translate and DeepL are well established and provide high-quality text translations to help writers cross language barriers and create in multiple languages.

Multilingual generation: some AI models can directly generate text content in multiple languages, facilitating writers to create and disseminate their works in different language environments.

6. Deep Involvement of Artificial Intelligence in the Creative Process

6.1. Idea Generation

Case Study 1: The Literary Computing team of Prof. Wang Feng, Dean of the School of Communication at East China Normal University, utilized the combination of big language modeling technology and artificial post-production touch-ups to create the first human-computer fusion feature-length novel in China, "Apostle of Heaven's Destiny". During the creative process, AI provided rich materials and inspiration, helping the writers construct a story world full of science fiction and fantasy elements. By learning and analyzing a large amount of text data, the AI was able to simulate the language styles and modes of expression of different writers, making the work more diversified and personalized in terms of language expression.

6.2. Characterization

Character Setting: AI can generate detailed character backgrounds and personality descriptions based on set character traits. For example, use AI tools to automatically generate a character's appearance, personality and backstory.

Dynamic Adjustment: During the creation process, according to the development of the story, the AI can suggest adjusting the behavior and dialogue of the characters to make them more three-dimensional and realistic.

6.3. Episode Design

Plot generation: using AI models to automatically generate the plot framework, including the beginning and end of the story. For example, recursive neural networks are utilized to generate the main plot threads of the story.

Complex Plot Management: AI can help writers manage complex plot threads to ensure coherent and consistent story logic.

7. Artificial Intelligence Expands Writers' Creative Potential

7.1. Provision of Diversified Creative Materials

Case Study 2: Hitchhiker's Express is a domestic self-developed AI writing platform that greatly improves writers' creative efficiency and text quality by intelligently generating the framework and key points of an article. Writers can choose suitable themes and styles, set the corresponding text parameters, and let the platform intelligently generate the framework and key points of the article. This intelligent creative assistance enables writers to create texts more efficiently, broadening their creative ideas and sources of inspiration.

Material library: AI can provide a huge library of material, including historical background, cultural

details, scientific knowledge, etc., to enrich writers' creative material. Writers can quickly access the background information and reference materials they need through AI tools.

7.2. Enhancing Creative Efficiency

Real-time feedback: With AI tools, writers can get real-time feedback during the creative process, including reader preference analysis and market response prediction, helping them adjust and optimize the content of their works.

8. Artificial Intelligence Drives Economic Benefits in the Literature Industry

The rapid development of artificial intelligence technology not only injects new vitality into literary creation, but also has a far-reaching impact on the reshaping of the entire literary industry ecosystem. With the continuous advancement of technology, AI is changing the process of literary creation, the reading experience of readers, and the operation mechanism of the market in an unprecedented way, thus promoting the development of the literary industry in the direction of being more efficient, more innovative, and more profitable.

In literary creation, AI analyzes text data intelligently to provide material and inspiration for writers, promote the birth of innovative works, enhance creative efficiency and quality, and enrich market supply. In communication, AI realizes accurate recommendation and personalized search, optimizes the reader experience, accelerates the dissemination of works, and increases the flow and income for the industry. At the level of consumption and market, AI analyzes market trends, helps optimize decision-making, reduces risk, improves competitiveness, and promotes the diversified development of IP to increase economic returns. At the same time, the extension of the literary industry chain also provides a broad space for AI applications, helping the synergistic development of literary education, criticism, tourism and other fields. Overall, AI is profoundly changing the ecology of the literature industry and leading its economic benefits to new heights.

9. Conclusion

Looking ahead, AI technology has great potential and significance in promoting literary creation and the development of the cultural industry. Through continuous exploration and application of new technologies, it can promote the sustainable development of literary creation and the cultural industry, and provide readers with richer and more diverse cultural experiences. With the continuous maturity of the technology and the deepening of its application, AI will become a powerful assistant for writers in the process of creation and open up a new chapter of literary creation. At the same time, AI will also bring more business opportunities and economic benefits to the literary industry and promote the prosperity of the whole industry.

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