Garment Textile Correction System Based on Artificial Intelligence under Computer Parameter Optimization Design

Lifeng Yan*, Qianyun zhang and Wei Liu
HaoJing College of Shaanxi University of Sience & Technology, Shaanxi, China

*Corresponding author e-mail: yanlf196@sust.edu.cn

Abstract. As artificial intelligence technology is widely used in more and more fields, it has become the frontier technology of social innovation. Artificial intelligence based on the development of computer parameters has been widely used in the clothing textile industry, and the technology of the clothing textile correction system has appeared. This article will discuss in detail the development trend of my country's artificial intelligence technology and the establishment of computer parameters for clothing textiles in combination with the development, model status, and development status of domestic and foreign clothing textiles. Trend and production models will also be developed and analyzed for apparel textile correction system models. The clothing system's artificial intelligence and production integration, computer parameters, product specifications and other aspects are analyzed. The purpose of this article is to create a clothing textile correction system, which can provide a useful reference for the development of artificial intelligence in the clothing textile industry in our country. Based on relevant knowledge and modern theories in practice, this article is based on a clothing textile correction system using artificial intelligence in computer parameter optimization design. In the course of the experiment, the implementation of the garment textile correction system summarized the technical value and function, as well as the technical purpose and development prospects, through rigorous experiments in theory and practice, to innovate and develop the traditional garment textile production mode. Experimental data shows that under the optimized design of computer parameters, the creation of artificial intelligence-based clothing textile correction system can provide a more convenient way for the clothing textile industry, integrate artificial intelligence into clothing textile production, and improve management efficiency and production efficiency.

Keywords: Computer Parameters; Artificial Intelligence; Clothing Textile; Correction System

1. Introduction
Today, the application of artificial intelligence in many fields has greatly increased, and has gradually become the core technology in many aspects [1]. Various high-end intelligent operations use artificial intelligence for production, design, research and development. In the clothing textile correction system, artificial intelligence is greatly improved by optimizing the design and development of
computer parameters. The clothing textile industry has been improved more effectively and scientifically [2]. The premise of artificial intelligence is to realize the ability of simulation and update to analyze a large amount of data. In this way, the optimization and design of computer parameters are deeply integrated into the field of artificial intelligence, which not only meets the needs of artificial intelligence self-renewal, but also uses artificial intelligence technology. The interaction can be handled quickly, and vice versa [3]. Improving the speed of information processing and the use of effective information is the main direction for the development of artificial intelligence-based high-quality clothing textiles in textile production, and contributes to the systematic and comprehensive changes in traditional clothing textile production methods and organizational forms [4]. Therefore, the use of computer parameters to optimize the design of artificial intelligence is of great significance to the construction of clothing textile correction systems [5].

Artificial intelligence technology is the integration of intelligent technology and human-computer interaction technology through computer Internet-related technology and communication technology, which can directly process and study the computer parameter statistics of available data [6]. At present, there are few researches on the possibility of innovation of clothing textile correction system in artificial intelligence based on computer parameter optimization design. At present, modern artificial intelligence and advanced Internet technology lack professionals who can go deep into this process. This is the reason why this article is based on the research of the artificial intelligence clothing textile correction system under the computer parameter optimization design, which contains many difficulties and shortcomings [7]. However, with the advent of the Internet era, artificial intelligence technology has gradually been widely used in various fields in our country, and it has shown a good development trend in combination with many industries, which makes the development of artificial intelligence in the clothing textile correction system possible. Therefore, how to use artificial intelligence technology to promote the improvement of the innovation ability of the clothing textile correction system, better respond to the current clothing textile market environment and stand out from the fierce competition, has become the primary problem facing the development of the clothing textile industry [8].

The clothing and textile industry is a labor-intensive industry, and the use of artificial intelligence to improve its production and design efficiency will bring huge benefits. Artificial intelligence can not only use popular e-commerce and mobile platforms in apparel retail manufacturing to provide more online customer suggestions by understanding customer information (including customer preferences and customer shopping records). Artificial intelligence products tailored specifically for a truly personalized shopping experience [9]. Artificial intelligence can also participate in various tasks in the apparel and textile industry, including managing the relationship between the enterprise and the buyer, which can help the seller reduce the scope of product defects and create a personalized experience for the buyer [10]. Artificial intelligence can also help the apparel industry process and analyze large amounts of data, predict future consumer trends, etc., and design better apparel textile product designs. Artificial intelligence is an inevitable choice for the development of China's clothing and textile industry in the future, so the clothing industry will inevitably be the first to use artificial intelligence to complete modernization. Therefore, it is necessary to study the artificial intelligence clothing textile correction system under the computer parameter optimization design.

2. **Algorithm Establishment and Optimization**

The algorithm belongs to a heuristic search algorithm, and the search path is executed by the return value of the evaluation function as the search cost. Here, the algorithm design of the artificial intelligence-based clothing textile correction system based on the computer parameter optimization design. The formula of its valuation function is:

\[ F(n) = G(n) + H(n) \]  \hspace{1cm} (1)
Where: $F(n_i)$ Represents the evaluation function of the current node, that is, the estimation of the path from the current node to the termination node Goal after reaching the current node from the initial node Start; $G(n_i)$ Represents the cost spent, which represents the cost of the path from the initial node Start to the current node; $H(n_i)$ The estimated cost is used to estimate the possible cost of the path from the current node to the end node Goal.

$$G(n_i) = \sum_{i=N}^{N} m_i - m \cdot (m_i - m)^{t} \cdot \Phi_i$$

(2)

The efficiency and accuracy of the algorithm are determined by the function $H(n_i)$. The estimation of the path mainly comes from the product of its distance and the cost $\delta$ spent within the unit distance. According to the distance formula $H(n_i)$ Estimated method:

$$H(n_i) = \sigma |x_{\text{goal}} - x_i| + |y_{\text{goal}} - y_i| + |z_{\text{goal}} - z_i|$$

(3)

Put the start node Start into the OPEN list, look for the node i with the smallest $F$ value in the OPEN list as the current node and judge whether it is the end node Goal. If not, move i to the CLOSE list and calculate the neighborhood of node $n_i$. The Flatest value of each node in:

$$H(n_i) = \sigma \max(|x_{\text{goal}} - x_i|, |y_{\text{goal}} - y_i|, |z_{\text{goal}} - z_i|)$$

(4)

Due to the uncertainty of node selection in the OPEN list, it may lead to a roundabout phenomenon in the search path. At the same time, every time $A$ When the algorithm searches for a path, it selects the local path of adjacent nodes, which may make the path searched out is not its optimal path. According to this cycle, search the OPEN list until the end node Goal is found, and use the backtracking method to generate the optimal path.

$$h_k(n) = \sigma \sqrt{(x_{\text{goal}} - x)^2 + (y_{\text{goal}} - y)^2 + (z_{\text{goal}} - z)^2}$$

(5)

3. Model Building

Establish an algorithm model for the artificial intelligence clothing textile correction system under the computer parameter optimization design. Divide the computer parameters first, perform hierarchical and decimated node sampling calculations to calculate multi-layer low-channel computer parameters.

$G_i$: Layer artificial intelligence is the corresponding low-level image. $G_i$: The layer corresponds to the weighted average distribution of the clothing textile correction system in the transitional stage of $6 \times 6$, so that it can be iteratively obtained each value to obtain a representative low-pass filter artificial intelligence $G_i \ldots G_1$. And then distributed by the Gaussian low-channel filtering clothing textile correction system, where the L-th layer computer parameters are defined as:

$$G_{l}(i,j) = \sum_{m=0}^{m} \sum_{n=0}^{n} w(m,n)G_{l-1}(2i+2j+m+n)$$

(6)

And then distributed by the Gaussian low-channel filtering clothing textile correction system, where the L-th layer computer parameters are defined as:

$$L_{a} = G_{l} - \text{EXPAND}(G_{l-1})$$

(7)

Use $G_{l,a}$ Indicates that the computer parameters of the L layer are expanded K times, then:

$$G_{l,a}(i,j) = \text{EXPAND}(G_{l,a})$$

(8)

The EXPAND function is defined as:
4. Evaluation Results

4.1. Application of Artificial Intelligence In Garment Textile Enterprises

As shown in Figure 1, according to the survey and statistics of the application degree of artificial intelligence in clothing and textile enterprises, it can be seen that artificial intelligence has the highest application degree of "design", "production" and "service" in my country's clothing and textile enterprises. The artificial intelligence technology introduced by China's garment and textile industry can not only collect a large amount of data, but also accurately predict current consumption trends. Garment textile companies focus on the development of apparel products, which are more suitable for the actual needs of customers. At the same time, when the application of artificial intelligence in clothing textiles is mature, it is also an effective remedy for the current shortage of innovative products in my country's clothing industry. Garment textile companies can rely on algorithms and big data to accurately understand market trends and develop products that meet market and customer requirements in a timely manner. Unlike traditional designers who create products based on their own ideas and sell products directly, they are created after analyzing market needs. The data is more likely to match market demand. As a clothing textile under artificial intelligence, the main purpose of artificial intelligence clothing is to provide services for specific users and meet different needs, and to withstand the user's subjective market decisions. This requires designers to evaluate the user's knowledge, product experience and emotional acceptance of artificial intelligence in the design process to meet the psychological and physical needs of customers.
4.2. The Current Prospects of Apparel Textiles in Combination with Artificial Intelligence

![Figure 2. Statistics on how optimistic about the prospects for the integration of artificial intelligence among current apparel textile personnel]

As shown in Figure 2, the current apparel textile personnel's prospects for the combination with artificial intelligence accounted for most of the "very optimistic" and "very optimistic", indicating that the current apparel and textile enterprises in my country have a greater holding of artificial intelligence combined with apparel textiles. High evaluation. The application of artificial intelligence technology in the apparel industry in our country has not been fully popularized, especially in our country's small and medium-sized apparel enterprises and their development, which still stop at informatization, and the industrial chain of artificial intelligence development has not yet been formed. Due to the low threshold of textile and apparel enterprises, there will always be a steady influx of new industry competitors. Looking at the international market, the capacity of my country's textile market has increased significantly as people's demand for clothing and textiles increases, and market share will be divided by large foreign companies in the fierce competition. At present, the homogeneity of products in my country's apparel and textile industry is widespread. How to accurately understand the actual needs of users and monitor the product dynamics of the apparel and textile market in real time has become a key issue in the improvement of my country's apparel industry. In the artificial intelligence environment, the apparel and textile industry should establish an artificial intelligence service platform to provide effective channels for customers to understand and purchase products. The garment and textile industry can systematically analyze the data collected by big data, better understand the supply and demand of the garment and textile market, provide strong data support, and realize the effective connection between massive information resources and garment production.

5. Conclusion

At present, artificial intelligence has become a new development trend of Shida. The development and application of new clothing textile technology is an important guarantee for the future development of intelligent clothing textile. The artificial intelligence-based apparel textile industry chain is also becoming a major trend in the apparel industry. Artificial intelligence has opened up endless possibilities for fashion design, and can design clothing from replacing handmade products to analyzing consumer psychology and predicting fashion trends. The combination of the clothing textile correction system under artificial intelligence can adapt to the development of the fast-developing era, provide more effective and convenient ways for designers to innovate clothing products, provide people with easier and easier life services, and have a good market development prospect. In the future, artificial intelligence-based clothing textiles will inevitably support the development of the new era. The clothing textile industry is at the forefront of services and development based on intelligent knowledge, but we still need to face the challenges that arise during the development process and continue to try to excavate knowledge and innovation to solve development problems and development potential, lay a solid foundation for the implementation of the garment textile correction system.
Acknowledgments
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