Research Article

Study Film and Television Postproduction and Innovation Strategy Based on an Artificial Intelligence Algorithm

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In the process of choosing the best scheme in the artificial intelligence algorithm, it is impossible to accurately judge the nonlinear relationship between the innovation strategy and the film and television postproduction scheme. An improved artificial intelligence algorithm based on the integration of dynamic factors and the artificial intelligence algorithm is proposed to reduce the disturbance ability of the artificial intelligence algorithm and improve the analysis level of film and television postproduction and innovation strategy. Firstly, the initial innovation strategy set of the production set is established by using dynamic factors, which makes it discrete and reduces the influence of the scheme selection error on the results. Then, the production set is divided into dynamic subproduction sets by using the film and television production theory, and each subproduction set seeks its own parallel innovation strategy. Finally, under the guidance of film and television production theory, each subproduction set shares the matching of optimal solutions. Through MATLAB simulation analysis and verification, the improved dynamic artificial intelligence algorithm can improve the accuracy of judging the innovation strategy of film and television works in an uncertain environment and shorten the convergence time of global feature solution and is superior to the original selection method of film and television production strategy. In addition, under that condition the initial weight scheme and the threshold scheme are set. The artificial intelligence algorithm is used to analyze the innovation strategy selection of youth idol works. The results show that under different film and television production requirements, the innovation strategy selection judgment of the artificial intelligence algorithm is accurate and superior to the original film and television production strategy selection method, which further verifies the effectiveness of the artificial intelligence algorithm proposed in this paper.

1. Introduction

With the rapid development of the social economy, the scale of the transmission network is expanding day by day, and it is developing in the direction of intelligence and complexity as stated by Zhou et al. [1]. Therefore, it is particularly important to judge the choice of innovation strategy of film and television works in a complex environment as illustrated by Zhang [2]. The key to judging the choice of innovation strategy of film and television works is to judge the matching and the type of innovation strategy as stated by Sun et al. [3]. Film and television production theory can not only judge the nonlinear relationship between feature solution and innovation strategy selection as described by Sorkhabi et al. [4] but also solve the nonlinear and high-latitude innovation strategy selection problem, which is the main method to

judge the innovation strategy selection of film and television works at present as described by Singh and Kumar [5]. Literature research shows that the theory of film and television production can classify the decomposed harmonic signals, shorten the diagnosis time, and improve the judgment effect of harmonic signals as stated by Sikka et al. [6]. However, in the process of film and television production theory classifying works, the complexity of film and television works will affect the judgment of model parameters and then affect the final judgment result of innovation strategy selection as stated by Sadok et al. [7]. Some scholars have put forward the artificial intelligence algorithm. Although the artificial intelligence algorithm can judge the choice of innovation strategy of film and television works, there are relatively few postproduction parameters, and the overall production ability is greatly reduced under

TABLE 1: Postproduction and innovation of different types of film and television.

Classification	Postproduction		Innovation strategy	
	Technical production	Content modification	Production innovation	Policy selection
Romance	39.78	19.35*	16.13	24.73*
Ethics	30.11	23.663*	18.28	27.96*
Metropolis	29.03	29.03*	32.26	9.68*
Idol	32.26	22.58*	22.58	22.58*
Comedy	21.51	33.33*	29.03	16.13*
Suspense	44.09	22.58*	19.35	13.98*
Ancient costume	15.05	16.13*	33.33	35.48
Fashion	17.20	31.18*	32.26	19.35*
Police bandit	26.88	11.83*	23.66	37.63*
Mainland	15.05	27.96*	32.26	24.73*
Hong Kong drama	15.05	32.26*	26.88	25.81*
Korean drama	27.96	12.90*	29.03	30.11*
American TV series	20.43	12.90*	34.41	32.26*

Note. There is no significant difference in the data in Table 1, *$P > 0.05$. Data source. Film and television production website and the actual film and television company survey.

changeable and complex conditions as stated by Pazouki and Pourghorban [8]. Therefore, some scholars have put forward a variety of innovative production strategies and improved the artificial intelligence algorithm, as shown in Table 1.

It can be seen from Table 1 that different types of film and television works have the same requirements in innovation and postproduction, so the artificial intelligence algorithm is needed as an aid; otherwise, the accurate selection of strategies cannot be realized. At the same time, some scholars have studied the theory of optimizing film and television production by the artificial intelligence algorithm ABC, which solves the problem of difficult optimization of postproduction parameters of film and television works and improves the reliability of innovative strategy selection diagnosis as stated by Park et al. [9]. Through the research and comparison of scholars at home and abroad, it is found that the artificial intelligence algorithm can quantitatively analyze film and television works, dig out the innovation points in the works, provide some reference for postproduction, guide producers to choose innovative strategies, and improve the production level of film and television works. In addition, artificial intelligence has the characteristics of fast analysis speed, simple operation process, and accurate analysis results, which is suitable for the analysis of a large number of film and television works. To sum up, the application of artificial intelligence in the field of film and television is relatively deep, but it is less applied in postproduction and innovative strategy selection. Compared with other productions, postproduction is the key to film and television works, so the demand for artificial intelligence algorithms is higher. The artificial intelligence algorithm can simplify the analysis process, improve the accuracy of calculation results, and integrate multiple indexes to analyze, and the final analysis results meet the actual requirements. According to the existing literature, the application of artificial intelligence in the production of film and television works will be deeper in the future and it will have a far-reaching impact on innovation strategies. Therefore, the

integration of artificial intelligence and later works of film and television are the future development trend.

From the analysis of the above literature, it can be seen that the influence of artificial intelligence on the later works of film and television is mainly the innovation of works, the rationality of strategies, the production effect of works, etc., so the corresponding optimization indicators also start from the above aspects. Based on this, this paper puts forward a dynamic artificial intelligence algorithm, optimizes the film and television production theory, judges the choice of innovative strategies for complex film and television works, and verifies the effectiveness of this aspect as stated by Owsley and Greenwood [10].

2. Related Concepts

2.1. Film and Television Production Theory. Film and television production theory is a theoretical set of montage, lens combination, material editing, and other theories as stated by Naz [11]. Its solution set is the best combination of various film and television production theories, which has the characteristics of sparsity and integration and can be used for nonlinear analysis of film and television works. In the early 20th century, film and television production theories such as montage, material cutting, and sound insertion were widely used in postproduction, innovation strategy analysis, and other fields. In order to effectively combine and apply various learning models, especially the hinge loss function in the core function, the experience and technology in the discrete film and television works are combined, and the accuracy of the combined strategy results is improved through the kernel learning method [12].

Theorem 1. *Assuming the collection of film and television works $T = (d_i \forall b_i | i = 1, \ldots, n)$, making film and television works at will $d_i \in \vec{R}$, innovating works $q_i \in [-1, 1]$ and adopting strategies for film and television works $b_i \in [1, +\infty]$. The matching function matches the nonlinear film*

$K(d_i, q_i, b_i)$ and television works with other works $L(x_i, y_i, z_i)$ and combines the strategy scheme to make the scheme optimal Y_f. The specific combination strategy formula is as follows:

$$Y_f = w \updownarrow f(d_i, q_i, b_i) \mapsto \lambda. \tag{1}$$

Among them, w is the weight and λ is the threshold scheme. At that time $|\sum Y_f| = \lim_{\delta x \to 0} 1$, the number of film and television works was the least and the film and television works and classification intervals were the largest. When the weight $\|w\|$ is the greatest, the innovation degree of the work is the highest, and it is $2/\|w\|$ Mu, X. [13].

Theorem 2. *If the audience satisfaction deviation is ξ_i evenly distributed in the range of [0, 1], it means that the film and television works are correctly classified. Otherwise, the film and television works should be reanalyzed, and the strategic scheme can be expressed as Y_f. The results are shown in the following formula:*

$$\begin{cases} \min Y_f = w \Rightarrow K(d_i, q_i, b_i) + C \sum \xi_i, \\ w \Rightarrow K(d_i, q_i, b_i) \notin [0, 1]. \end{cases} \tag{2}$$

Among them, C is the deviation factor, which mainly reflects the deviation between film and television works and complexity.

Theorem 3. *If the function is matched $K(d_i, q_i, b_i) = \sum \varphi(d_i) \forall \sum \varphi(q_i).$, then the innovation strategy can be expressed as $L(x_i, y_i, z_i)$. The results are shown in the following formula:*

$$\begin{cases} \max L(a) = \sum a_i \mp \sum a_{ij} q_{ij}, \\ \sum a_i = dx_i \forall q_i \in [0, +\infty]. \end{cases} \tag{3}$$

To sum up, the postproduction parameter C sum in film and television production theory is the key to choosing innovative strategy of the artificial intelligence algorithm, and it is also the main postproduction parameter optimized in this paper as stated by Kushwaha et al. [14].

2.2. Dynamic Artificial Intelligence Algorithm

2.2.1. Artificial Intelligence Algorithm.
The artificial intelligence algorithm can optimize innovation strategy by simulating artificial behavior, including leading, assisting, and adjusting. During initialization, the number of film and television works and innovative schemes of works is the same, and the matching of different film and television works represents the optimal solution. Firstly, the initialization production set and film and television works are randomly generated, the film and television works are judged near the scheme with a better fitness scheme, and the "poor" scheme, about 1/2 of the number, is eliminated by comparison as stated by Hornung [15]. Then, the auxiliary

scheme uses the roulette strategy to judge the best scheme, gives corresponding weights, and makes greedy judgments around it to produce the 1/2 scheme. Finally, we give up the film and television works that do not meet the threshold scheme and judge the film and television works in other directions as shown by Ghasseminia et al. [16].

Assuming that the initial number of film and television works and innovative schemes is n and the random matching of film and television works is $L = (x_i, y_i, z_i)$, x_i, y_i representing plane coordinates and z_i is the difficulty, then the initial matching of film and television works is as follows:

$$L_i(x_i, y_i, z_i) = w \cdot K(d_i, q_i, b_i) \oint K\left[\left(x_{j\max}, y_{j\min}, z_{j\min}\right) | \gamma\right]$$
$$+ r\text{and}(0, 1). \tag{4}$$

Among them, x_i, y_i, and z_i are the maximum scheme with arbitrary matching and difficulty and $x_{j\max}$ and $y_{j\min}$ are the optimal schemes with various difficulties. $z_{j\min}$ is a random number in the range of [0, 1].

We lead the scheme to randomly judge film and television works and make cross-judgment to update the matching of film and television works. Under the constraint of fitness, the maximum strategy is used to obtain the optimal matching of the corresponding weights, and the process of combining strategies is shown in the following formula:

$$\Delta L_i(x_i, y_i, z_i) = w \cdot K(d_i, q_i, b_i) \int \frac{\varphi_{ijz}(\Delta x_{io}, \Delta y_{io}, \Delta z_{io})}{\sum \lambda \cdot K(d_i, q_i, b_i | \gamma)}, \tag{5}$$

where $o \in [0, n/2]$, $i \in [n/2, n]$, $\varphi_{ijz} \in (-1, 1)$, and $k \neq i$.

The auxiliary scheme is to judge the best film and television works by probability p_i and judge the neighborhood of the better film and television works to obtain the optimal matching. The combination strategy process is shown in the following formula:

$$p_i = \frac{Kb_i}{\sum_{i,j,k}^{n} [K(\Delta d_{io}, \Delta q_{io}, \Delta b_i) | \gamma]}. \tag{6}$$

Among them, $F(\cdot)$ is a moderate function with different difficulties.

If the film and television works have not obtained the optimal solution after infinite cycle judgment, the film and television works judgment will be abandoned, the auxiliary scheme will be changed into an adjustment scheme, and new film and television works will be randomly generated according to formula (6) for the next judgment.

(1) We make a collection to judge the dynamic adjustment of the number of works analyzed in a single time as shown by Ghani et al. [17]. In the preliminary analysis, the adjustment scheme cannot guarantee the overall judgment and may choose a certain judgment "subjective scheme," which reduces the overall performance of the artificial intelligence algorithm. Therefore, in the process of selecting the best scheme for film and television works, we should

try our best to expand the judgment range, judge the range near the optimal solution, and constantly adjust the number of works analyzed once. Some scholars make linear ρ adjustments to judge the number of works in a single analysis to reduce the randomness of the number of works in a single analysis but choose local "subjective schemes" near the optimal solution. In order to make up for the shortage of choosing the best scheme mentioned above, this paper introduces a dynamic adjustment factor ν, and its combination strategy formula is shown in the following formula:

$$\rho = \min \sum \Delta \nu_i \cdot \log e^{-F(x_i, y_i, z_i)/\sum F(x_i, y_i, z_i)} \frac{\partial^2 \rho}{\partial \nu^2}. \tag{7}$$

Among them, $\Delta \nu_i$ is an i times inertial scheme and $F(x_i, y_i, z_i)$ is a moderate function of the i times update.

The matching update of the lead scheme and the auxiliary scheme can be changed to the following formula:

$$\Delta L(x_i, y_i, z_i) = w \cdot K(d_i, q_i, b_i) + \nu_{ijz} K(\Delta d_{ik}, \Delta q_{ik}, \Delta b_{ik}). \tag{8}$$

From formula (8), it can be seen that the scheme is $K(\Delta d_{ik}, \Delta q_{ik}, \Delta b_{ik})$ relatively small and large in preliminary analysis, which can expand the judgment range of the leading scheme, avoid selecting the local "subjective scheme," and keep the diversity of selecting the best scheme $K(\Delta d_{ik}, \Delta q_{ik}, \Delta b_{ik})$ as shown by Flament [18]. In the production stage of judgment, the scheme is relatively large and relatively small ν, which narrows the judgment range, improves the neighborhood judgment ability of the leading scheme, and enhances the dynamic judgment performance of the artificial intelligence algorithm as shown in Figure 1.

As can be seen from Figure 1, the dynamic adjustment of the number of works analyzed once in the production set can accurately determine the global polar scheme and the polar scheme represents the best combination of various film and television production theories. Therefore, the dynamic adjustment of the number of works analyzed in a single time can make the film and television works meet the requirements and improve the accuracy of the combination strategy results as stated by Dai et al. [19]. At the same time, the data in Figure 1 show periodic changes. Although the whole data are smooth, there are still some breakpoints, which show that the artificial intelligence algorithm segments the postproduction of film and television works to achieve accurate selection of innovation strategies. In addition, the angle between the artificial intelligence algorithm and the best strategy is consistent, which further illustrates the stability of artificial intelligence.
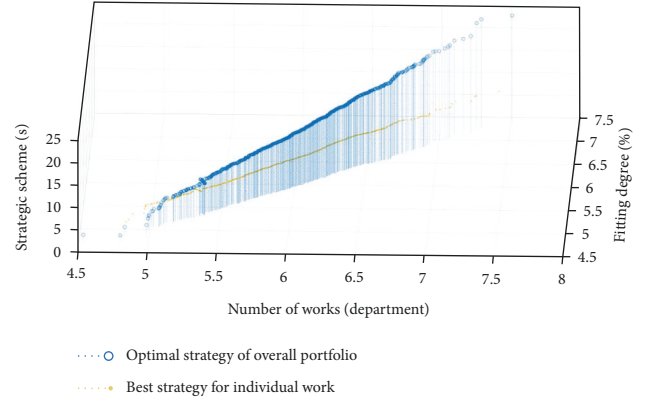

Figure 1: Dynamic adjustment results of the number of works in a single analysis of the production set.

(2) Introduction of factors has also been performed in this article.

When a certain film and television work is collected many times and reaches the mining limit, the leading scheme will be changed into an adjustment scheme, looking for new film and television works and combining new solutions of strategies. Because of its strong randomness and poor antidisturbance ability, the artificial intelligence algorithm will fall into a local "subjective scheme" in the early stage of selecting the best scheme. The probability that the production set falls into the "subjective scheme" is positively correlated with the complexity of film and television works. In order to make up for the above shortcomings, this paper introduces factors to reduce the complexity of film and television works through the probability density function and helps the production set to jump out of the early local "subjective scheme". The combination strategy formula of the function is shown in the following formula:

$$L(x_i) = \frac{\lim_{\delta x \to 0} F(x_i, y_i, z_i)/\sum F(x_i, y_i, z_i)}{\pi \sum_{i,k=1}^{+\infty} |K(\Delta x_{ik}, \Delta y_{ik}, \Delta z_{ik})|^2}. \tag{9}$$

When $\lim_{\delta x \to 0} F(x_i, y_i, z_i)/\sum F(x_i, y_i, z_i)$ is 1, it is the normal distribution of film and television works Cauthy $(0, 1)$. Cauthy, the random function of the work $\beta = \tan[\pi \cdot (\alpha - 1/2)]$, $\alpha \in [0, 1]$; Δx_{ik}, Δy_{ik}, and Δz_{ik} are the change value of x_{ik}, y_{ik}, and z_{ik}. At that time $\alpha = 1$, the representative film and television works had the highest complexity, otherwise, the complexity was the lowest. Among them, Cauthy $(0, 1)$ tends to the pole on both sides slowly, so the obtained scheme is better than Gauss $(0, 1)$, which can effectively reduce the subjective judgment rate. Moreover, the peak scheme of Cauthy $(0, 1)$ is smaller than that of Gauss $(0, 1)$, which can improve the influence of subjective factors in function analysis. Based on the above analysis, the judgment formula of film and television works can be expressed in the following formula:

$$\Delta L_i = K(d_i, q_i, b_i) \forall \text{Cauthy}(0, 1) K(\Delta d_{ik}). \tag{10}$$

2.3. Dynamic Innovation Strategy Analysis

(a) Optimization model of dynamic innovation strategy is as follows:

Reasonable judgment of dynamic innovation strategy is the main index to measure the artificial intelligence algorithm. The dynamic optimization among the production set operations, such as leading, assisting, and adjusting, can not only balance the relationship between the global judgment and the local judgment of the production set but also improve the corresponding judgment ability Buendgens [20]. From formula (8), we can see that in the early judgment of film and television works, we pay a great deal of attention to the global production ability, and in the later judgment, we pay attention to the local judgment, so different production sets should dynamically judge the judgment strategy according to the conditions. At present, besides the dynamic artificial intelligence algorithm, there are other dynamic optimization models and adjustment strategy of individual schemes as shown in the following formula:

$$\Delta L_i(x_i) = \sum_t \Delta L_{i-1}(x_i, y_i, z_{i-1})$$
$$\forall \text{Cauthy}(0,1)\left[p \cdot K(\Delta d_{ik}, \Delta q_{ik}, \Delta b_{i-1k})|\gamma\right]. \tag{11}$$

(1) The overall scheme adjustment strategy results are shown in the following formula:

$$\Delta L_i(x_i) = \sum_t \Delta L_{i-1}(x_{i-1}, y_{i-1}, z_{i-1})$$
$$\forall \text{Cauthy}(0,1)$$
$$\cdot \left[g \cdot \max K(\Delta d_{i-1k}, \Delta q_{i-1k}, \Delta b_{i-1k})|\gamma\right]. \tag{12}$$

(2) The results of the judgment strategy of film and television works are shown in the following formula:

$$\Delta L_i(x_i) = \sum_{i=1,t}^{n/2} \Delta L_{i-1}(x_i, y_i, z_{i-1})$$
$$\forall \text{Cauthy}(0,1)\left[g \max K(\cdot)\forall p \max K(\cdot)\right]. \tag{13}$$

(3) The multiangle judgment strategy results are shown in the following formula:

$$\Delta L_i(x_i) = \sum_t \Delta L_{i-1}(x_{i-1}, y_{i-1}, z_{i-1}) \cdot F(x_{i-1}, y_{i-1}, z_{i-1})$$
$$\forall \text{Cauthy}(0,1)K(\Delta d_{i-1k}, \Delta q_{i-1k}, \Delta b_{i-1k}), \tag{14}$$

where t is the time to make set optimization.

In this paper, the artificial intelligence algorithm is improved in two aspects. On the one hand, every time the film and television works change, under the constraints of the weight of the mapping vector w and the threshold scheme of mapping λ, the set is made to randomly judge the strategy from the five models as stated by Buendgens [21] and the film and television works are collected many times. In the later stage of the judgment of film and television works, the judgment innovation strategy is gradually reduced, neighborhood judgment is carried out, and the diversity of production sets is maintained to improve the overall production ability. On the other hand, the global judgment and local judgment ability of the production set are balanced Δv_i, and the updated inertia scheme $F(x_i, y_i, z_i)$, the moderation function, and the Lagrangian multiplier function are integrated to judge the best film and television works faster as stated by Budhwar et al. [21].

(b) Making dynamic reference strategy between sets. Making the set reference is the main way to realize dynamic optimization. Based on the dynamic optimization of making the set, the artificial intelligence algorithm in this paper constructs a dynamic distributed reference strategy. Ben Cheikh [22] stated that different subproduction sets use different dynamic reference strategies, complex postproduction parameters, and operations. The production set is randomly divided into five subproduction sets, and each subproduction set represents a subinnovation strategy. In each iteration, the subproduction set will randomly judge different reference schemes. After each film and television work is collected, we compare the fitness schemes of different subproduction sets and the complexity of film and television works and record the global optimal matching. Other subproduction sets are aggregated to the optimal matching, which improves the judgment efficiency of the best film and television works.

2.4. Judgment Method Based on the Dynamic Factor and the Artificial Intelligence Algorithm.

The basic idea of the dynamic artificial intelligence algorithm is to use a variety of reference strategies to optimize the initial scheme and the threshold scheme of complex film and television works and obtain the global optimal scheme so that the judgment rate of innovative strategy selection of complex film and television works is the highest. The implementation steps of the artificial intelligence algorithm in this paper are shown in Figure 2:

Step 1. We determine the structure and complexity of film and television works. According to the characteristics of practical problems, the nonlinear distribution structure of film and television works and the complexity of the artificial production set are determined $\gamma = 5$.

Step 2. We initialize the film and television works. According to the related postproduction parameters, the
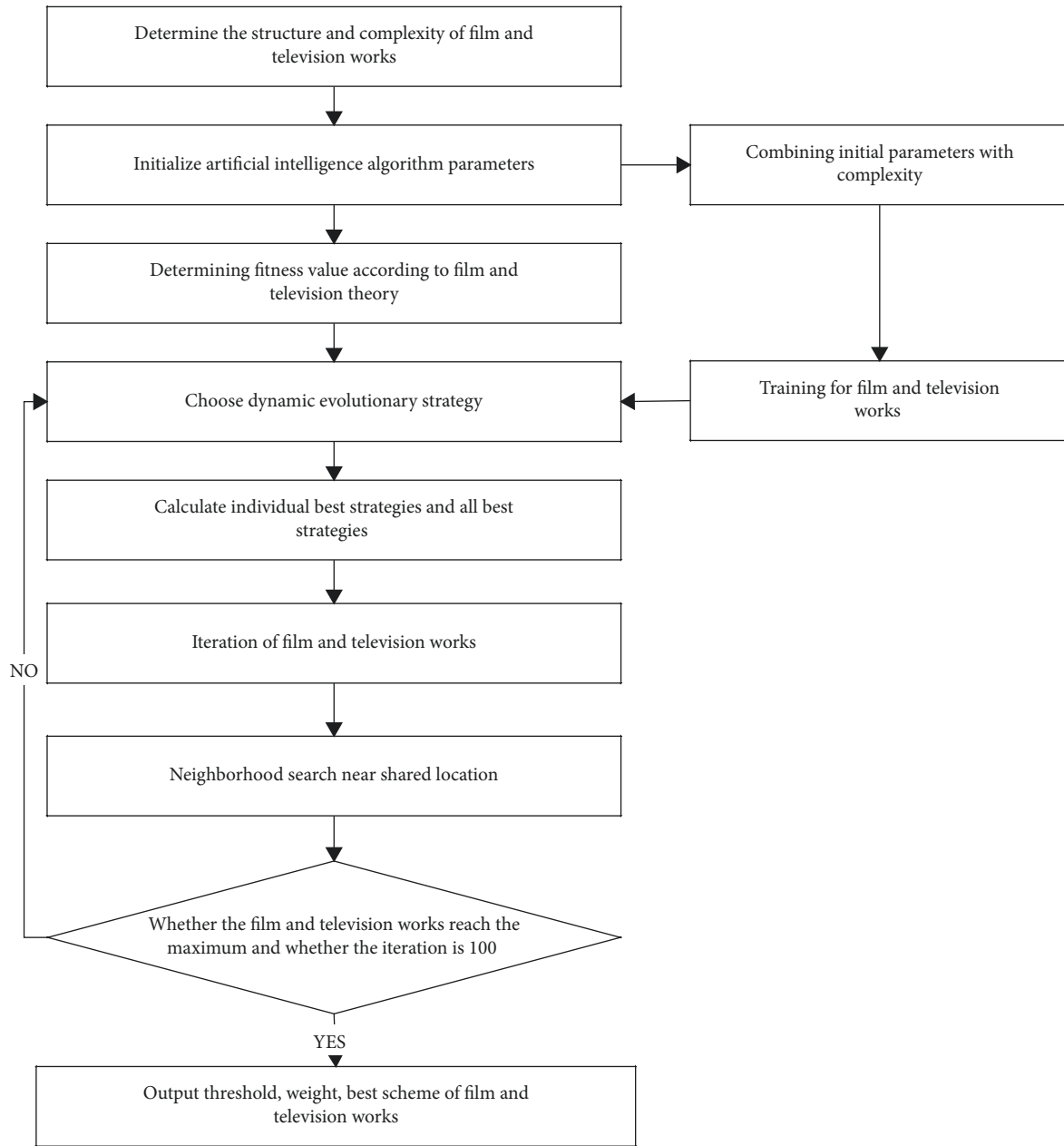
Figure 2: Implementation flow of the improved dynamic artificial intelligence algorithm.

manual production set is initialized. The number of sets made $n = 100$, $\Delta v_i \in [0.2, 0.9]$, Cauthy $(0, 1) \in [0.21, 0.79]$, and the number of iterations $m = 50$ are calculated.

Step 3. We determine the fitness function. Using the theory of film and television production, the artificial production set is randomly generated and it is mapped to the changeable innovation strategy; the initial mapping vector weight and the mapping threshold scheme are obtained. According to the choice of innovative strategies for complex film and television works, $w = 0.38$ and $\lambda = 0.62$. Through formulas (3)–(7), the artificial set is improved, and the fitness scheme of each film and television work is combined.

Step 4. We combine global and local optimal matching of strategies. The initial production set is divided into five subproduction sets, the fitness is obtained, and the optimal global matching and the local optimal matching of each subproduction set are compared.

Step 5. We perform iteration of matching, adjusting, and updating film and television works. According to the changes in film and television works, the five subproduction sets dynamically adjust factors, randomly judge strategies from five optimization schemes, and incorporate the penalty factor C and the inertia weight Δv_i according to formulas (2) and (7).

Step 6. We perform dynamic reference optimization of each subproduction set. After searching for a film and television work, the best global matching is selected, the matching information is shared with other subproduction sets to attract them to approach the best matching, and the best scheme is selected in the neighborhood.

Step 7. We judge whether the film and television works reach the maximum scheme m and whether the iteration times reach M. We repeat steps 1 to 5 if it has been reached; otherwise, we stop selecting the best scheme and return to the threshold scheme, weight, and global best matching.

3. Empirical Analysis

3.1. Model Performance Analysis. In order to further verify the performance of the dynamic artificial intelligence algorithm, four benchmark functions are selected, which are Rastrigin, sphere, Ackley, and Griewank. The test process is as follows :

(a) The Rastrigin function results are shown in the following formula:

$$f(x) = \sum_{i=1} \frac{x_i^2}{10} \forall \cos(2\pi x_i) + \xi, \tag{15}$$

where $|x_i| \in [0, 5.12]$ and i is 1, 2. The optimal scheme 0 is obtained at $(0, 0)$.

(b) The sphere function results are shown in the following formula:

$$f(x) = \sum_{i=1} x_i^2 + \xi, \tag{16}$$

where $|x_i| \in [0, 5.12]$ and i is 1, 2. The optimal scheme 0 is obtained at $(0, 0)$.

(c) The Ackley function results are shown in the following formula:

$$f(x) = \frac{e}{20} + e^{1/n \sum_{i=1} \cos(2\pi x_i)} - \lim_{x \longrightarrow 0} e^{x_i/5\sqrt{1/n}}, \tag{17}$$

where $|x_i| \in [0, 10]$ and i is 1, 2. The optimal scheme 0 is obtained at $(0, 0)$.

(d) The Griewank function results are shown in the following formula:

$$f(x) = 1 + \sum_{i=1} \frac{x_i^2}{100} \forall \prod_{i=1} \cos\left(\frac{x_i}{\sqrt{i}}\right), \tag{18}$$

where $|x_i| \in [0, 100]$ and i is 1, 2. The optimal scheme of x_i is 0 obtained at $(0, 0)$. In this paper, the parameters of film and television works are set as follows: the total number of film and television works is 50, the number of iterations is 50, the optimization calculation is 20, the maximum inertia scheme $\Delta v_{max} = 4$, the optimal inertia scheme $\Delta v_{min} = 0.3$, and the complexity $\gamma = 0.32$ are independent analysis of each group of works, and the

result is an alternative strategy of 50 iterations. The results of the four test functions are shown in Table 2.

As can be seen from Table 2, the dynamic artificial intelligence algorithm is superior to the traditional analysis algorithm and its global optimal scheme and theoretical optimal scheme. Moreover, the selection range, substitution strategy, and combination strategy error of the dynamic artificial intelligence algorithm are smaller than those of the traditional analysis algorithm. The data in Table 2 show that the global optimization results of the artificial intelligence algorithm are better than those of traditional analysis methods, and the optimization schemes are higher than those of traditional analysis methods. Moreover, the data in the table are calculated by the scientific counting method, and the results are more accurate. In order to more intuitively reflect the performance of the best scheme selected by the test function in 4, the following convergence curves are given in Figures 3–6.

As can be seen from Figures 3–6, the dynamic artificial intelligence algorithm is faster and more stable in selecting the best scheme, which is superior to the artificial intelligence algorithm. Therefore, the dynamic artificial intelligence algorithm performs better in the speed and accuracy of combination strategy, and the process of combination strategy is more stable.

3.2. Processing of Experimental Film and Television Works. This paper selects the types of ethics, thriller, suspense, and police bandits as the research film and television works and collects 14 film and television works from January 20, 2020, to January 2022. After sorting preliminary film and television works, 102 film and television work innovation strategies and 12 postproduction schemes were obtained. According to the requirements of the state administration of radio, film, and television, the above film and television works are divided into four categories: emphasizing the early stage and neglecting the late stage, neglecting the early stage and emphasizing the late stage, whole process production analysis, and postproduction and innovation combination. The results are shown in Table 3. This paper judges the accuracy of theoretical prediction and actual results according to the way of theoretical judgment and actual detection. In order to avoid too many human factors in the collection of film and television works, the fill missing function is called mayhem as shown in Table 3.

The first 1/2 of the total number of film and television works is used as training film and television works (62), and the last n/2 is used as the test set (40) for experimental comparison.

3.3. Experimental Results. According to the experimental situation, it is determined that the structure of film and television work collection is 10-15-20, the scheme group Cauthy $(0, 1) = 0.63$, the maximum iteration times $M = 50$, and other postproduction parameters are the same. In this paper, the classification results of film and television works by the artificial intelligence algorithm are proposed, as shown in Figure 7.

TABLE 2: Results of different test functions.

Function	Method	Maximum scheme	Optimal scheme	Alternative strategy	SD	Global optimal scheme	Theoretical optimal scheme
Rastrigin	Artificial intelligence algorithm	1.41E-02	3.73E-02 ∗	3.21E-02	2.44E-02 ∗	1.41E-02	0
	Traditional analysis method	2.83E-02	5.40E-02 ∗	2.70E-02	4.11E-02 ∗	2.83E-02	0
Sphere	Artificial intelligence algorithm	1.41E-02	5.27E-02 ∗	2.19E-02	1.54E-02 ∗	1.41E-02	0
	Traditional analysis method	4.37E-02	4.37E-02 ∗	2.06E-02	4.11E-02 ∗	4.37E-02	0
Ackley	Artificial intelligence algorithm	4.37E-02	4.76E-02 ∗	5.27E-02	5.40E-02 ∗	4.37E-02	0
	Traditional analysis method	4.50E-02	3.98E-02 ∗	5.40E-02	1.41E-02 ∗	4.50E-02	0
Griewank	Artificial intelligence algorithm	1.6818E-05	1.5136E-05 ∗	1.5977E-05	1.5130E-07 ∗	1.2873E-11	0
	Traditional analysis method	0.5236E-05	0.1295E-05 ∗	0.2177E-05	0.2199E-07 ∗	0.3189E-11	0

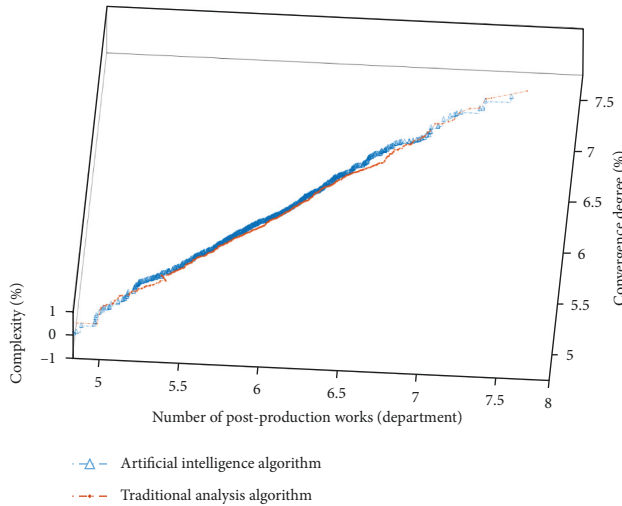*Note.* There is no significant correlation between the above data, ∗$P > 0.05$.

FIGURE 3: The convergence curve of selecting the best scheme of the Rastrigin test function, artificial intelligence algorithm, traditional analysis method, number of film and television works (department), degree of innovation strategy (%), and complexity (%).

FIGURE 4: The convergence curve of the optimal scheme for the sphere test function selection.

Through comparative analysis, we can see that the classification of film and television works based on the dynamic artificial intelligence algorithm is discrete, which is closer to the actual postproduction distribution, while the classification of film and television works based on the artificial intelligence algorithm is relatively concentrated, which cannot meet the needs of actual classification. In addition, the distribution of film and television works of the dynamic artificial intelligence algorithm is not affected by complexity, while the distribution of film and television works of the artificial intelligence algorithm is obviously affected by complexity and becomes more concentrated with the increase in complexity. The reason is that the dynamic artificial intelligence algorithm increases complexity processing coefficients γ and factors $\text{Cauthy}(0,1)$ and
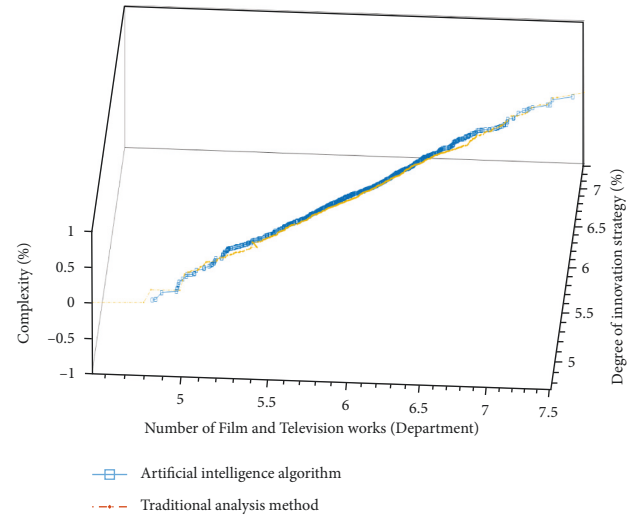
establishes a mapping between the multiangle innovation strategy and single-angle innovation strategy. At the same time, the fitness function is used to adjust the innovation strategy

In order to further prove the effectiveness of the model proposed in this paper, other comparative models are introduced for comparative analysis: (1) artificial intelligence algorithm, (2) film and television production theory combined with the artificial intelligence algorithm, (3) film and television production theory combined with the dynamic factor method, and (4) dynamic artificial intelligence algorithm in this paper, and the results are shown in Figures 8 and 9.

As can be seen from Figures 8 and 9, the fitness value of the dynamic artificial intelligence algorithm is the highest and reaches the limit at the earliest. Under the same
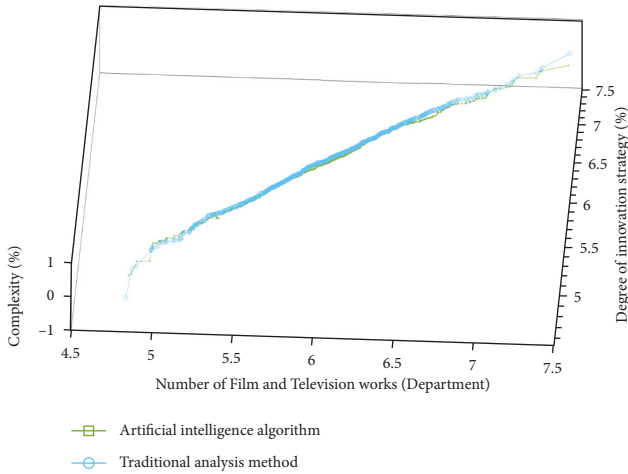
Figure 5: The convergence curve of the best scheme for selecting the Ackley test function.
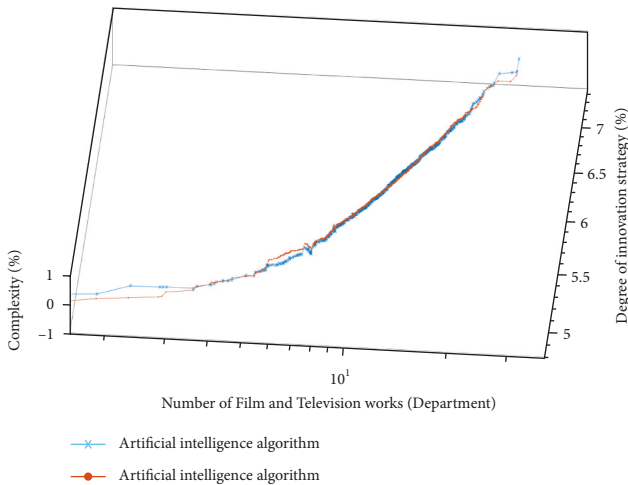

Figure 7: Classification results of complex film and television works.

Figure 6: The convergence curve of the Griewank test function for selecting the best scheme.
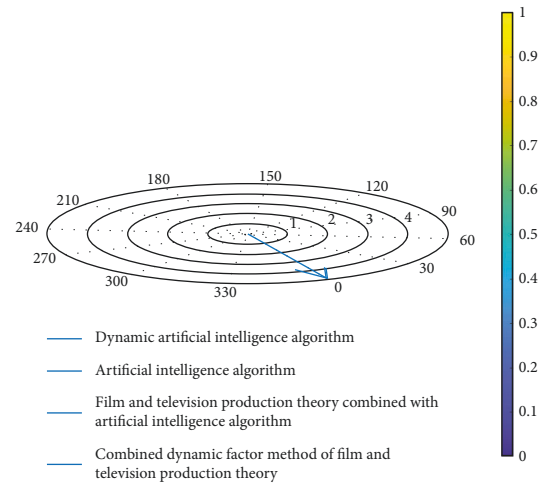
Figure 8: Comparison of fitness values of different methods.

Table 3: Types and proportion of film and television works collected.

Make a plan	Quantity of film and television works (pieces)	Proportion (%)
Pay more attention to the early stage than the late stage	23	23
Light whole process manufacturing analysis	55	54.2
Preheavier and postheavier	12	12
Postproduction and innovative combination	12	11.8
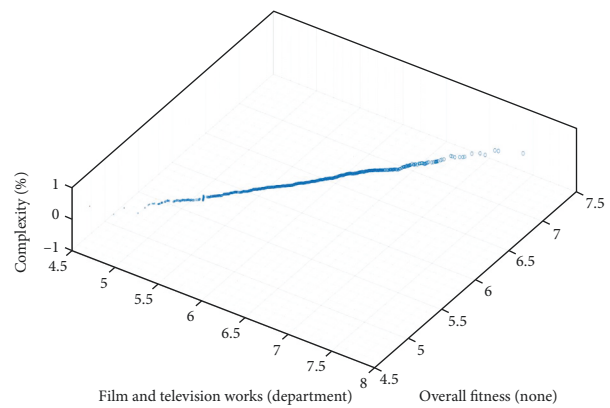
Figure 9: Change in the overall fitness value.

complexity, the stability of the dynamic artificial intelligence algorithm is higher, followed by the artificial intelligence algorithm, film and television production theory combined with the dynamic factor method, and film and television
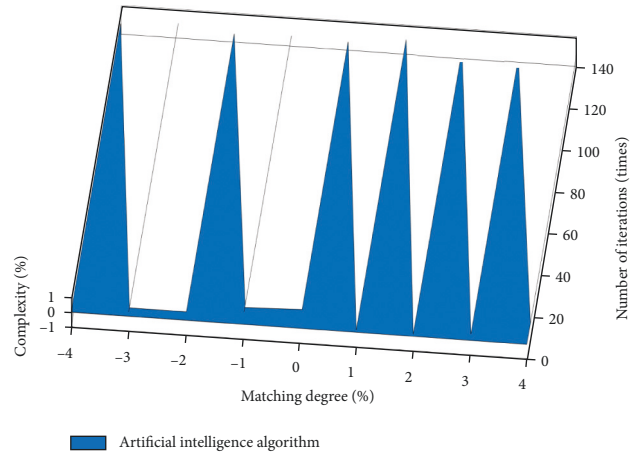
production theory combined with the artificial intelligence algorithm. The reason is that the film and television production theory reduces the influence of complexity on the results of combination strategies, and dynamic factors

TABLE 4: Recognition accuracy of different work types.

Scheme type	Dynamic artificial intelligence algorithm	Artificial intelligence algorithm	Film and television production theory combined with the artificial intelligence algorithm	Combined dynamic factor method of film and television production theory
Pay more attention to the early stage than the late stage	99.94	98.93	97.92	96.91
Light whole process manufacturing analysis	99.97	98.92	98.97	98.90
Preheavier and postheavier	99.91	95.94	95.93	92.91
Postproduction and innovative combination	99.94	97.92	94.93	95.96

provide different optimization strategies to improve the accuracy of work recognition results, which is consistent with relevant research. From the aspect of complex post-production types, the accuracy of different artificial intelligence algorithms is analyzed, and the results are shown in Table 4.

As can be seen from the above table, the implementation rate of innovative strategy of the dynamic artificial intelligence algorithm is high, and the accuracy rate does not change with the change in the work type. The main reason is that the dynamic analysis of film and television works by factors makes its continuous combination strategy shorter and can change the types of works more flexibly. Therefore, dynamic factors can not only reduce the influence of complexity on results but also quickly realize accurate analysis of different work types.

4. Conclusion

This paper presents an improved artificial intelligence algorithm based on film and television production theory as stated by Bemani [23] and combined with dynamic factors. By setting the threshold scheme, weight, and dynamic reference strategy, the identification optimization of postproduction is carried out. The artificial intelligence algorithm model constructed in this paper can classify film and television works discretely as stated by Bagaric and Hunter [24], which makes the distribution of film and television works closer to the actual distribution of works. MATLAB simulation results show that the artificial intelligence algorithm constructed in this paper has high precision and speed of combination strategy, better convergence, adaptability to different complexity and work types, and high global production ability. In this paper, the discussion on the correlation between indicators and the implementation process of the artificial algorithm is insufficient and needs to be further deepened. There are some limitations in the research of complexity dynamic switching, and future research will focus on the analysis of complexity switching, in order to improve the artificial intelligence algorithm proposed in this paper [25].

Data Availability

The experimental data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest regarding this work.

Acknowledgments

References

[1] N. F. Zhou, Z. Zach, N. N. Vijayan, and S. Harsh, "Bias, "fairness and accountability with artificial intelligence and machine learning algorithms," *International Statistical Review*, vol. 22, no. 1, p. 33, 2022.

[2] Z. X. Zhang, "Artificial intelligence-enabled sensing technologies in the 5G/internet of things era: from virtual reality/augmented reality to the digital twin," *Advanced Intelligent Systems*, vol. 7, no. 12, p. 67, 2022.

[3] M. R. Sun, W. C. Hu, and Y. Wu, "Public perceptions and attitudes towards the application of artificial intelligence in journalism: from a China-based survey," *Journalism Practice*, vol. 21, no. 3, p. 102, 2022.

[4] O. M. Sorkhabi, A. S. Nejad, and M. Khajehzadeh, "Evaluation of isfahan city subsidence rate using InSAR and artificial intelligence," *KSCE Journal of Civil Engineering*, vol. 8, no. 21, p. 64, 2022.

[5] N. Singh and K. Kumar, "A review of bus arrival time prediction using artificial intelligence," *Wiley Interdisciplinary Reviews-Data Mining and Knowledge Discovery*, vol. 3, no. 8, p. 12, 2022.

[6] M. P. Sikka, A. Sarkar, and S. Garg, "Artificial intelligence (AI) in textile industry operational modernization," *Research Journal of Textile and Apparel*, vol. 9, no. 11, p. 32, 2022.

[7] H. Sadok, F. Sakka, and M. E. El Maknouzi, "Artificial intelligence and bank credit analysis: a review," *Cogent Economics & Finance*, vol. 8, no. 17, p. 67, 2022.

[8] G. Pazouki and A. Pourghorban, "Anticipation of the compressive strength of steel fiber-reinforced concrete by different types of artificial intelligence methods," *Structural Concrete*, vol. 11, no. 4, pp. 67–69, 2022.

[9] J. H. Park, H. S. Jo, S. H. Lee, S. W. Oh, and M. G. Na, "A reliable intelligent diagnostic assistant for nuclear power

plants using explainable artificial intelligence of GRU-AE, LightGBM and SHAP," *Nuclear Engineering and Technology*, vol. 54, no. 4, pp. 1271–1287, 2022.

[10] C. S. Owsley and K. Greenwood, "Awareness and perception of artificial intelligence operationalized integration in news media industry and society," *AI & Society*, vol. 12, no. 9, p. 16, 2022.

[11] F. Naz, "Reviewing the applications of artificial intelligence in sustainable supply chains: exploring research propositions for future directions," *Business Strategy and the Environment*, vol. 8, no. 11, p. 54, 2022.

[12] K. V. Murthy and L. A. Kumar, "Analysis of artificial intelligence in industrial drives and development of fault deterrent novel machine learning prediction algorithm," *Automatika*, vol. 63, no. 2, pp. 349–364, 2022.

[13] X. Mu, "Optimization of 125-mu m heterogeneous multi-core fibre design using artificial intelligence," *IEEE Journal of Selected Topics in Quantum Electronics*, vol. 28, no. 4, p. 33, 2022.

[14] O. S. Kushwaha, H. Uthayakumar, and K. Kumaresan, "Modeling of carbon dioxide fixation by microalgae using hybrid artificial intelligence (AI) and fuzzy logic (FL) methods and optimization by genetic algorithm (GA)," *Environmental Science and Pollution Research*, vol. 9, no. 12, p. 67, 2022.

[15] A. L. Hornung, "Artificial intelligence in spine care: current applications and future utility," *European Spine Journal*, vol. 52, no. 11, p. 87, 2022.

[16] S. Ghasseminia, A. K. S. Lim, N. D. P. Concepcion et al., "Interobserver variability of hip dysplasia indices on sweep ultrasound for novices, experts, and artificial intelligence," *Journal of pediatric orthopedics*, vol. 42, no. 4, pp. E315–E323, 2022.

[17] S Ghani, S. Kumari, and S. Ahmad, "Prediction of the seismic effect on liquefaction behavior of fine-grained soils using artificial intelligence-based hybridized modeling," *Arabian Journal for Science and Engineering*, vol. 47, no. 4, pp. 5411–5441, 2022.

[18] F. Flament, "Artificial Intelligence analysis of over half a million European and Chinese women reveals striking differences in the facial skin ageing process," *Journal of the European Academy of Dermatology and Venereology*, vol. 15, no. 7, p. 32, 2022.

[19] Y. N. Dai, J. Q. Wang, and S. Gao, "Advanced electronics and artificial intelligence: must-have technologies toward human body digital twins," *Advanced Intelligent Systems*, vol. 64, no. 1, 2022.

[20] I. Celik, "The promises and challenges of artificial intelligence for teachers: a systematic review of research," *TechTrends*, vol. 7, no. 11, p. 42, 2022.

[21] P. Budhwar, A. Malik, M. T. T. De Silva, and P. Thevisuthan, "Artificial intelligence - challenges and opportunities for international HRM: a review and research agenda," *International Journal of Human Resource Management*, vol. 33, no. 6, pp. 1065–1097, 2022.

[22] A. Ben Cheikh, "How artificial intelligence improves radiological interpretation in suspected pulmonary embolism," *European Radiology*, vol. 15, no. 7, p. 44, 2022.

[23] A. Bemani, "Rigorous modeling of frictional pressure loss in inclined annuli using artificial intelligence methods," *Journal of Petroleum Science and Engineering*, vol. 16, no. 33, p. 211, 2022.

[24] M. Bagaric and D. Hunter, "The solution to the pervasive bias and discrimination in the criminal justice system: transparent and fair artificial intelligence," *American Criminal Law Review*, vol. 59, no. 1, pp. 95–148, 2022.

[25] F. Ahmad, "Deep image retrieval using artificial neural network interpolation and indexing based on similarity measurement," *Caai Transactions on Intelligence Technology*, vol. 44, no. 8, p. 32, 2022.