

Retraction

Retracted: Application of Visual Guidance Design of Tourist City Combined with Deep Learning Computer Visual Symbols

Journal of Function Spaces

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

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- [1] J. Cai and K. Liu, "Application of Visual Guidance Design of Tourist City Combined with Deep Learning Computer Visual Symbols," *Journal of Function Spaces*, vol. 2022, Article ID 8612543, 10 pages, 2022.

Research Article

Application of Visual Guidance Design of Tourist City Combined with Deep Learning Computer Visual Symbols

Jiaying Cai ¹ and Kai Liu ²

¹Liuzhou Institute of Technology, Liuzhou, Guangxi 545000, China

²Guangxi University of Science and Technology, Liuzhou, Guangxi 545000, China

Correspondence should be addressed to Kai Liu; 100000822@gxust.edu.cn

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In recent years, computer vision has received rapid attention and development, and it also represents the most cutting-edge research direction of deep learning. With the rapid development of today's world economy, the arrival of the information age marked by the network has broken the boundaries of time and space in the sense of physics, and the social form in which the entire human being lives is more and more approaching a small "global village." The design and application of visual symbols need to achieve innovative combination and deconstruction of image symbols, indicator symbols, and symbolic symbols. When applying visual symbols to the design of urban tourism image, designers need to be clear about its role. The design and application of visual symbols of urban tourism image are of great significance, whether it is to condense and spread urban culture or beautify the environment. City brand image building can effectively protect the natural landscape and reduce the damage to the environment, and some city brand images can also become city landmarks. Therefore, designers should give full play to the advantages of local traditional culture, refine rich design materials, and skillfully integrate them into the design of visual symbols to further display the local humanistic characteristics, especially maximize the advantages and value of visual symbols, so as to make tourism. The city shows unique charm and unique humanistic spirit.

1. Introduction

With the increasing enrichment of people's spiritual life and the vigorous development of tourism, the competition between tourist cities has become increasingly fierce. This competition has gradually shifted from the competition of tourist attractions in the past to the competition of the city's overall tourism image to plan and develop urban tourism [1]. In recent years, during the golden weeks such as May Day, the national day, and the Spring Festival, people increasingly prefer to travel for the holidays. The major scenic spots have ushered in the peak of tourism, and the number of tourists has increased sharply, even exceeding the tourism carrying capacity of the scenic spots. On ordinary holidays and weekends, people will also choose the surrounding tourist attractions for sightseeing [2]. To a great extent, the development of China's tourism industry has driven the substantial growth of tourist attractions and the

surrounding service industries. China's tourism industry is showing a rapid growth trend with a bright future [3]. In the city, which is a space area centered around people or things, the space is relatively fixed, while the time is flowing. Through this "field" system of dynamic and static, human beings and the environment communicate with each other in material, energy, information, and spirit [4]. Due to the rapid development of tourism, there is an urgent need for an information system to display the image to the public. Therefore, the CI strategy is naturally introduced into the research of urban tourism to design the image of urban tourism. The meaning of the urban tourism identification system not only refers to CIS, but also it has given a new connotation [5]. In daily life, about 80% of information is obtained through vision. Good visual function enables people to capture a large amount of information in a short time, so that we can better understand the world around us. Then, the scenic spot guidance system is based on human visual

information processing, including recognition, discrimination, spatial perception and vision, and the integration with other senses to obtain information.

The urban brand image can break through the traditional urban development mode and release more energy for urban development [6]. With the development of economy, some cities gradually lose their characteristics, especially some tourism cities gradually fade the unique color of the city and only pay attention to economic benefits [7]. The theory of urban brand image has important strategic significance for urban development. It is necessary to popularize the importance of urban brand image, which will enable more and more tourist cities to obtain more benefits [8]. As an intelligent technology of computer vision data processing, deep learning technology can extract some data from objective things and through the construction of artificial neural network. After processing, it can be deeply excavated by computer, and the characteristics of data can be obtained through supervised learning or unsupervised learning, so as to achieve the advantages of faster processing speed, larger data volume, and higher accuracy of computer vision technology such as image recognition [9]. The decision-makers of domestic tourist cities have realized that the visual guidance system, as the synthesis and concentration of a city's image, culture, and characteristics, is of great significance to the sustainable development of the city, and at the same time, they have also increased the construction of the city's visual guidance system. However, due to the lack of in-depth understanding and effective guidance, its effects are also unsatisfactory, and some are even counterproductive, which will seriously hinder the healthy development of tourist cities [10]. The establishment of urban visual identity guidance system should integrate urban master planning with art design and effectively serve the interoperability design of urban master planning, urban space environment, and urban landscape design.

The research innovation lies in the research on some key technologies of deep learning in the field of computer vision symbols. Combining the old and new computer vision problems such as vision-oriented image retrieval and classification, some corresponding key technologies and solutions are proposed. Sort out the design principles of individuality and commonness, the unity of nationality and modernity, and the function and form of visual symbols of urban tourism image. Through semiotics, urban tourism image, visual image design, and other related theoretical monographs, it combines the contents of ecological symbols and humanistic symbols. This paper analyzes the image generalization of visual symbols of urban tourism image from the perspective of the integration of traditional culture and modern art and various interactive display modes. The design method of symbol implication and the future development trend are summarized.

2. Related Work

Wang H pointed out that nowadays, with the great changes in China's urban development, simple road network cannot meet the needs of fast-developing cities, and traffic facilities

such as urban trunk roads, expressways, viaducts, subways, tunnels crossing the river, and tunnels crossing the sea are constantly emerging. The development of this fast-speed urban traffic is accompanied by the expansion of urban area, and it is followed by the improvement of the overall appearance of the city [11]. Gao G et al. pointed out that the current research on the brand image of tourist destinations is relatively simple, and it is basically carried out on the basis of the theoretical framework of the enterprise [12]. Lu found that this topic combines the visual identity symbol system design with the tourism destination brand image and uses multidisciplinary knowledge to improve and supplement the research on the visual identity symbol design of tourism image [13]. This paper analyzes the method and path of visual identification symbol design in Taigu Sanduotang Museum. Xuchang proposed that this paper put forward new research ideas and system models around the technical bottlenecks and difficulties in the research of these computer vision fields. In addition, the idea of preference learning is introduced into the research of problems in the field of computer vision, which provides a new research perspective and direction [14].

Sarba et al. constructively put forward the concept of defining urban visual symbols in "Research on Visual Symbols of Urban Brand Image," which are mainly urban signs and urban symbols [15]. With the help of relevant theories of semiotics and visual perception, Tong builds a logo design system with visual characteristics, types, visual styles, and visual semantics as the main body and a symbol shaping system with visual characteristics, types, and setting principles as the main body [16]. Li et al. pointed out: "China's tourism industry is developing rapidly, gradually moving towards branding, and vigorously promoting the brand image of tourist attractions [17]". Amoros F pointed out: "The difference between region and environment creates different famous historical cities in China, and the charm of the city is reflected in the regional and cultural nature of its landscape design [18]". Under the guidance of urban planning, urban landscape design should continue the historical context, highlight traditional characteristics, highlight cultural charm, properly solve the contradiction between modernization and inheritance of tradition, and seek the combination of modern life and traditional culture. Chen et al. "pointed out:" driven by the accelerated development of urban construction, the urban public environment is becoming more diversified and complex. With the help of the guide sign system, the complex public environment space can become more efficient and orderly [1]. Cyr A found that only by combining tourism logo orientation system, regional cultural elements, and the surrounding environment can it be correctly positioned and accurately studied, so I hope to conduct in-depth research and analysis on topics related to such aspects [19]. Finally, most of the research literatures only discuss regional differences or regional cultures, but do not go deep into regional characteristic cultures. The elements of regional characteristic cultures are the essence and powder extracted from a wide range of regional cultures. One is how to better integrate with other technologies in different application fields. Computer vision can make

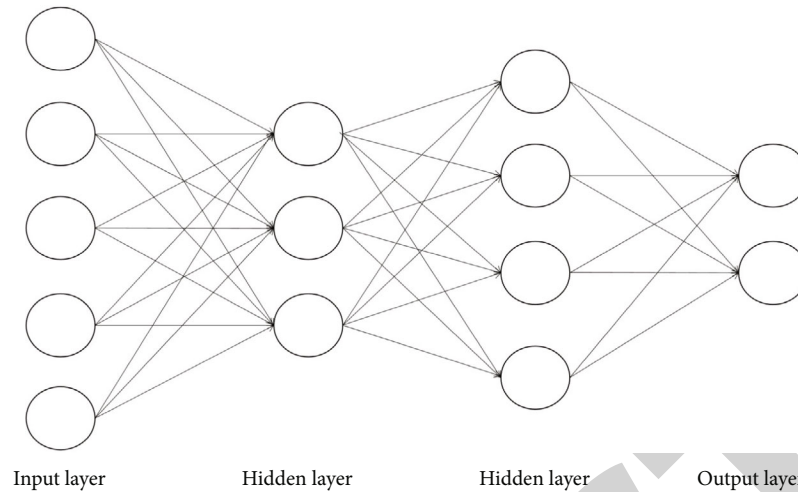


FIGURE 1: Artificial neural network model for deep learning.

extensive use of big data in solving some problems, which has gradually matured and can surpass human beings. But in some problems, it cannot achieve high accuracy. The second is how to reduce the development time and labor cost of computer vision algorithm. At present, computer vision algorithms require a lot of data and manual annotation and require a long research and development cycle to achieve the accuracy and time-consuming required by the application field. The third is how to speed up the design and development of new algorithms. With the emergence of new imaging hardware and artificial intelligence chips, the design and development of computer vision algorithms for different chips and data acquisition devices is also a challenge.

The research and analysis of the deep neural network framework in this paper have certain theoretical contributions to the development and application of deep learning, and at the same time, it has also played a positive role in promoting the research on many hot issues in the field of computer vision. □

3. Methodology

3.1. Deep Learning Applied to Computer Vision Analysis.

With the proposal of the concept of intelligent machine and the development and application of machine technology, computer vision technology has been rapidly studied and developed. The fundamental reason is that the perception of intelligent machines is mainly realized by visual technology, which helps intelligent machines have the ability to “see the world.” Usually, the collection, extraction, and processing of object features are realized by camera and processor. As an intelligent technology of computer vision data processing, deep learning technology can extract some data from objective things and construct artificial neural networks. After processing, it can be deeply mined by calculation, and the characteristics of data can be obtained through supervised learning or unsupervised learning. To achieve image recognition and other computer vision technology processing faster. As a branch of machine learning,

the idea of deep learning is to realize intelligent data processing by establishing an artificial neural network to simulate the human brain. The model is shown in Figure 1.

That is to say, the artificial neural network model established in advance is used to simulate the human brain for deep learning and analysis to realize the intelligence of the machine. Commonly used are the perception of images, sounds, videos, etc. Because of the multi hidden layer learning structure in the artificial neural network, it obtains data through input layer perception, multi hidden layer intelligent processing and output layer execution to complete a given task. Each node is equivalent to a processor and has a specific algorithm. The result is used as the input of the next layer node, and deep learning realizes signal transmission between neurons similar to human brain through this cascade of multiple hidden layers. And accumulate data experience under specific unsupervised training. From the perspective of the development goals of computer vision, one is to help people recognize and remember the external world, and the other is to help machines realize the perception of the surrounding environment. Among them, there are many researches on image recognition and processing, target state detection, scene analysis, and application, and the hot research fields are shown in Figure 2.

Take image recognition as an example, as shown in Figure 2. Urban visual guidance system is a comprehensive public information system that guides people to carry out activities in public places. Its primary function is to guide the direction, followed by strengthening the regional image. Locality or regionality is not the same as the application and expression of regional characteristic cultural elements. Regional characteristic cultural elements are the essence and core extracted from a wide range of traditional regional cultures. The uniqueness, identification, creativity, and other important contents of regional culture will eventually be transformed into visual symbols to express, spread, and develop cultural connotation. In order to make the communication and inheritance of current regional culture conform to the communication form of the times, we need to constantly excavate cultural symbols with local characteristics.

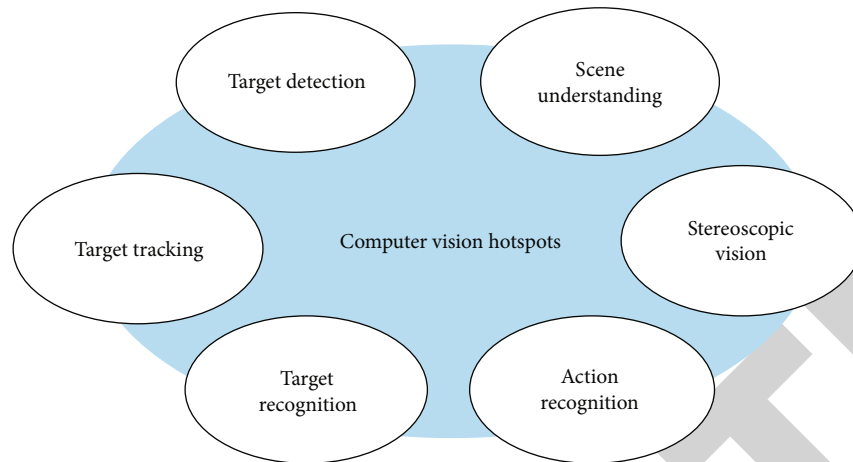


FIGURE 2: Computer vision application field.

Only by optimizing the extraction and redesign of visual elements can we better promote the development and innovation of traditional regional culture in the Internet era. Cultural symbols are the material carrier of national culture. Cultural visual symbols have strong graphic abstraction and are the visual signs of different national cultural differences. Find the differences of their respective cultures and present them in visual expression forms. The extraction and redesign of cultural symbols is a new concept, which is to mobilize one or more cultural elements or cultural symbols in the design process. Collect, compare, and refine, and then complete the design of concept or formal beauty through visual design methods such as deconstruction, reorganization, and addition. We should design visual symbols that can express the theme, on the one hand, in its external form, and, on the other hand, it is the expression connotation with special significance. The external form should conform to the visual form with aesthetic value, that is, it should be beautiful and generous, have the aesthetic feeling of artistic form, and also have the internal meaning corresponding to the shape. The traditional regional culture is summarized and refined, and the redesign methods of “decomposition” and “reconstruction” are used to dismantle and rearrange the traditional culture with local characteristics to make it conform to the aesthetic cognition under the current trend of the times. Give each graphic language element a new era of meaning and rich beauty, and let regional culture be protected and inherited through symbolic visual language. And with accurate information form, make people have correct association and behavior. Urban visual guidance system plays a great role in urban traffic dredging, urban planning, and dispersion of people flow. It also affects the style and appearance of the city and people’s quality of life to varying degrees and realizes the dialogue between people and urban space. Since the early 1990s, the urban visual guidance system has gradually formed its unique identity and integrity from the initial signs and indicators to the current guidance design. It integrates direction identification, public facilities identification, road search, warning service, urban culture, and artistic beauty. Street maps help people understand the overall situation of the surrounding environment and deter-

mine their location. So as to provide reference for selecting the next walking direction. Provide directional timetable of bus, train and flight information through driving route map, bus and subway route map and tourism route map. Guide lines that use different colors to guide specific destinations and various electronic information display and consultation facilities. The urban tourism orientation system is mainly composed of the following three parts: the orientation object of the urban tourism orientation, the orientation elements of the urban tourism orientation system, and the main information of the urban tourism orientation system, which together constitute the overall framework of the urban tourism orientation system, as shown in Figure 3.

3.2. Realization of Visual Guidance System Based on Tourist City. And with accurate information form, make people have correct association and behavior. Urban visual guidance system plays a great role in urban traffic dredging, urban planning, and dispersion of people flow. It also affects the style and appearance of the city and people’s quality of life to varying degrees and realizes the dialogue between people and urban space. Since the early 1990s, the urban visual guidance system has gradually formed its unique identity and integrity from the initial signs and indicators to the current guidance design. It is mainly to enable different users to efficiently get the required information and find the final destination in this more complicated modern spatial information environment. The guidance system and the identification system need and support each other, and in the same environment, they are integrated to a great extent. They are inseparable and belong to a large environmental system. The orientation information is conveyed through a logo guidance system based on graphic symbols, color perception, and text layout. The ultimate goal is to optimize the form of its information, guide people to generate accurate cognition, and make correct actions, which is a good action for the audience. The guide is an organic beautification behavior for the environment, which well achieves the dual satisfaction of vision and spirit. The development of the signage guidance system is a complex process. A successful signage guidance system integrates the elements of many different

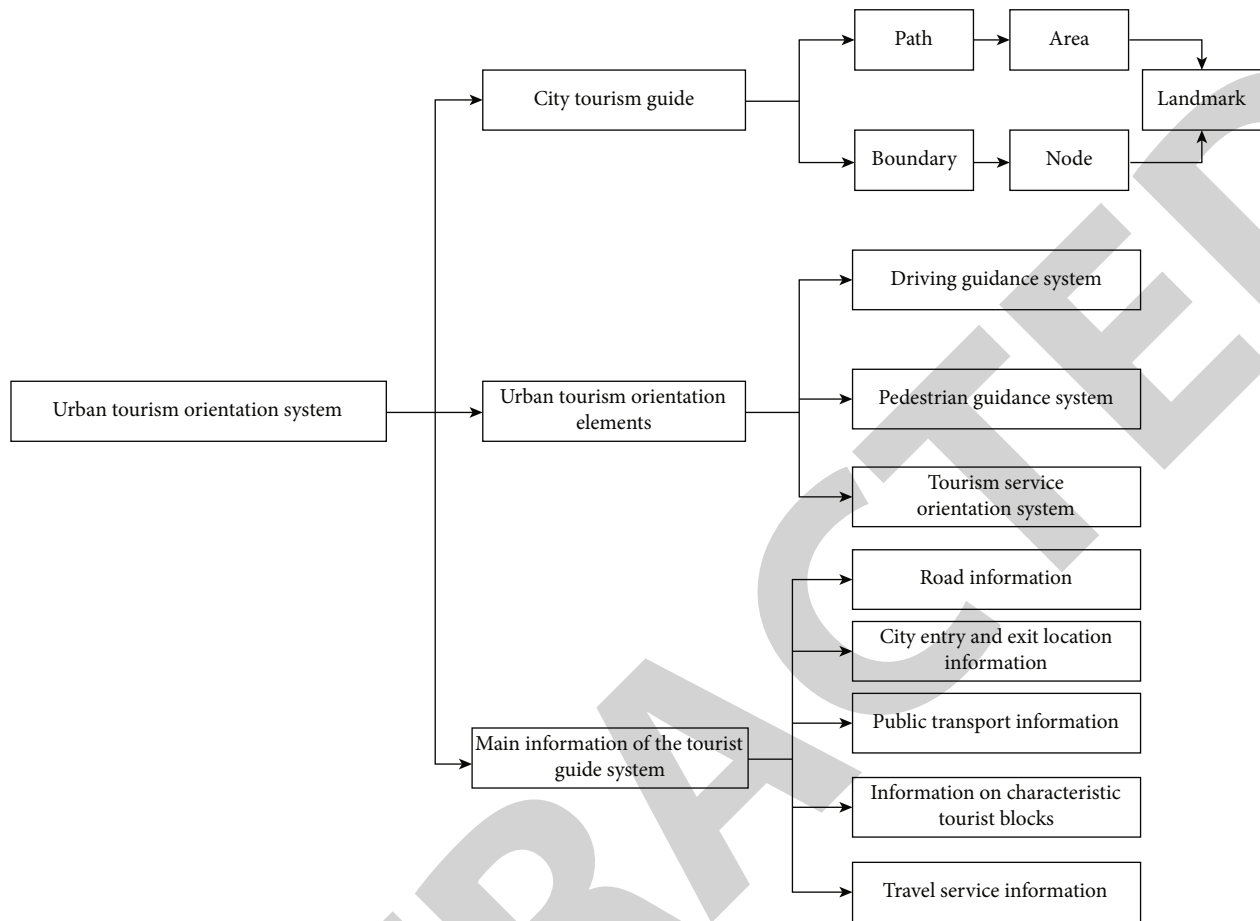


FIGURE 3: Component diagram of urban tourism guidance system.

disciplines and businesses, such as design, technology, architecture, physics, anthropology, spatial planning, and marketing.

The design goal of the tourism guidance system is to create a comprehensive, modern, unobtrusive, and easy-to-maintain work, which must have a high degree of recognition and information content. The design must actively show the versatility and characteristics of the scenic spot or region, so as to enhance the image of the region, prolong the stay time of tourists, and increase their return visit rate. The visual symbol of urban tourism image is the visual induction of standardization, systematization, visualization, and symbolization of all tourism resources in the city. Tourism resources have the function of further beautification, which can guide and help tourists to perceive the city more deeply, eliminate the anxiety caused by unfamiliar cities, and carry out continuous promotion of the city's tourism image. It is important to guide the public to improve the quality of life through tourism. Tourism can let people put down their troubles, and tourism will make people feel more about themselves and know themselves again in the world. Tourism is a special form of three-dimensional learning. Through tourism, there are gains, changes, and sublimations. Different cities have different tourism resources, cultural customs, history, and culture. The visual symbol of urban tourism is a symbol system refined based on the dif-

ferences in tourism regional characteristics, cultural history, and modern development. It visualizes and graphically processes the tourism characteristics of cities and facilitates the visual communication of urban tourism image information. For example, the visual symbol of PHUKET tourism is a deformed design on the word "Phuket." In the process of using visual communication to design urban tourism image, influenced by the modern design concept, it usually pays more attention to simplicity and abstraction. Pay more attention to the intuitive impact in the visual performance, and it is required to bring a strong feeling to the audience at the first time, which is contrary to the performance of traditional pattern elements. Applying traditional pattern elements to visual communication design helps to promote the humanization return of design language. Transition the relatively stiff design language to the direction of humanism and affinity, and promote the diversified development of visual communication design. The font style is full of the enthusiasm and vitality of Southeast Asian countries. The letter "U" is decorated with traditional Thai handicraft elements, and the left half of the "U" also symbolizes the waves rolled up in Phuket. The standard color of blue reflects the sky blue of Andaman Sea, where the sea water blends with the sky as shown in Figure 4.

These visual symbols of urban tourism show the connotation and culture of urban tourism, embody the character of



PHUKET

FIGURE 4: Tourist signs of Phuket.

the city, express the personality of the city, and have the uniqueness and identification of urban tourism, which can accurately provide information to tourists, attract tourists' attention, and induce tourism motivation, thereby effectively increasing the passenger flow of urban tourism.

Deep learning methods include many well-known deep neural network models, such as deep belief network (DBN), convolutional neural network (CNN), deep Boltzmann machine (DBM), and stack denoising self-encoder (SDAE). However, the most popular deep learning frameworks in recent years are convolutional neural networks and stacked denoising self-encoders. Obviously, the work of the decoder is an inverse process of the work of the encoder. However, the key factor of simultaneous training of the two networks is to minimize the error between the reconstructed input Z_i and the original input X_i . The mathematical formula used here to minimize the error is expressed as follows:

$$\min_{W, W', b, b'} \sum_{i=1}^k \|x_i - z_i\|_2^2 + a \left(\|W\|_F^2 + \|W'\|_F^2 \right), \quad (1)$$

where k represents the number of original input images. $y_i = f_\theta(W x_i + b)$ and $z_i = g_{\theta'}(W' y_i + b')$ denote the output of the encoder and decoder for each input image x_i , respectively. a represents the regression parameter, which is used to trade off the relationship between the error and the complexity of the two networks, which is measured here using the norm term $\|\cdot\|_F$.

Based on this, we collect this preference relationship between all positive and negative samples to build a preference relationship set, as follows:

$$PJ = \{v_i \succ u_j; i = 1..p, j = 1..n\}. \quad (2)$$

In order to further deduce the sorting function, we refer to the method used by Herbrich et al. In this way, we need to look for such a function $R : \mathcal{R}^d \times \mathcal{R}^d \rightarrow \mathcal{R}$, for example:

$$\forall v_i, u_j \in \mathcal{R}^d, R(v_i, u_j) > 0 \Leftrightarrow R(v_i, 0) > R(u_j, 0). \quad (3)$$

After that, this sorting function r can be simplified and defined as

$$\forall x \in \mathcal{R}^d, r(x) = R(x, 0). \quad (4)$$

According to the set of preference relations generated by formula (4), we can use the following constraints to determine the function R :

$$\begin{aligned} R(v_i, u_j) &> 0, \\ R(u_j, v_i) &< 0, \forall (v_i, u_j) \in PJ. \end{aligned} \quad (5)$$

Therefore, we can construct a two classifier.

$$\begin{aligned} \min_{\omega, \xi} \frac{1}{2} \|\omega\|^2 + C \sum_{i,j} \xi_{ij}, \\ \text{s.t. } \langle \omega, v_i - u_j \rangle &\geq 1 - \xi_{ij}, \\ \xi_{ij} &\geq 0, \forall (v_i, u_j) \in PJ. \end{aligned} \quad (6)$$

In fact, ω here is the preference parameter we require. Finally, we can use this preference parameter to sort the candidate target image blocks. The sorting formula is as follows:

$$r(x) = \langle \omega, x \rangle = \sum_{i,j} \beta_{ij} \langle v_i - u_j, x \rangle. \quad (7)$$

4. Result Analysis and Discussion

In the performance comparison of target tracking algorithms, the first evaluation criterion is the tracking success rate indicator, which is used to measure the overlap rate between the predicted tracking target frame and the true value in each frame. Among them, the tracking effect in bolt and soccer video sequences is the best among all 15 target tracking algorithms, and the performance in coke, deer, and jogging2 video sequences is also second only to the best performance, but the performance in car4 video sequences is slightly worse, but it is also among the top four tracking algorithms. Network system is composed of several interconnected channels and their elements, which are arranged in an average and orderly way according to the networked spatial form. Usually, a spatial information system is composed of several interconnected roads and nodes formed by the interconnection between roads. This kind of system is mainly aimed at tourists who cannot determine their walking route and is often suitable for railway stations, squares, or other dense spaces with too many starting points or too many ending points. Tourists need to set their starting points to correspond to the action space required by the corresponding starting points to determine their walking route. In the denser areas of the city, the spatial setting of the tourist guidance system often uses the setting method of the network system, which can effectively point out the direction for tourists. The top 10 algorithms with the best performance among the algorithms are depicted and displayed. In the legend of the accuracy percentage map of each video sequence, we sort the output of all target tracking algorithms according to the standard that the distance between the center point of the predicted target tracking frame and the center point of the true value is not more than 20 pixels as shown in Figures 5 and 6.

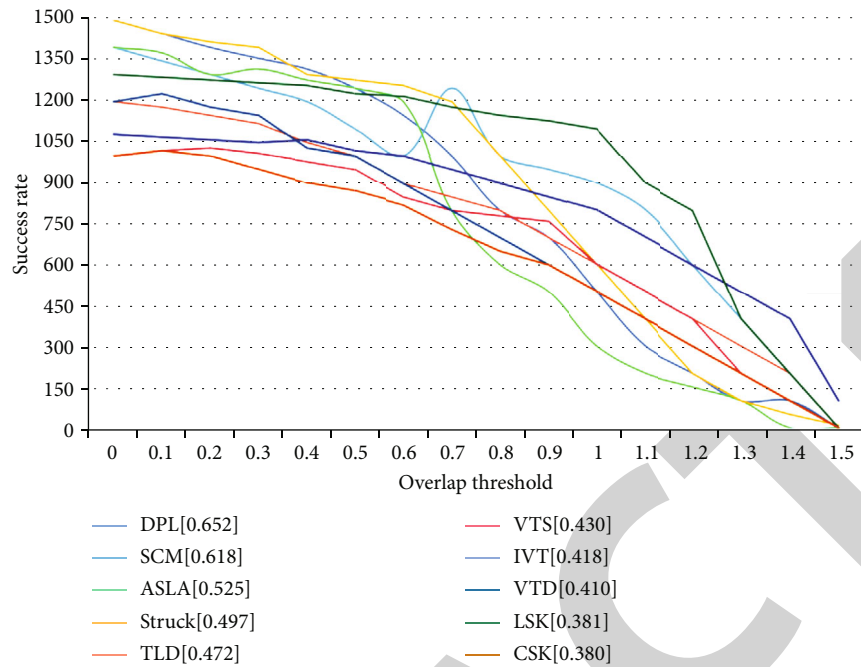


FIGURE 5: Success rate and accuracy plots across all video sequence frames.

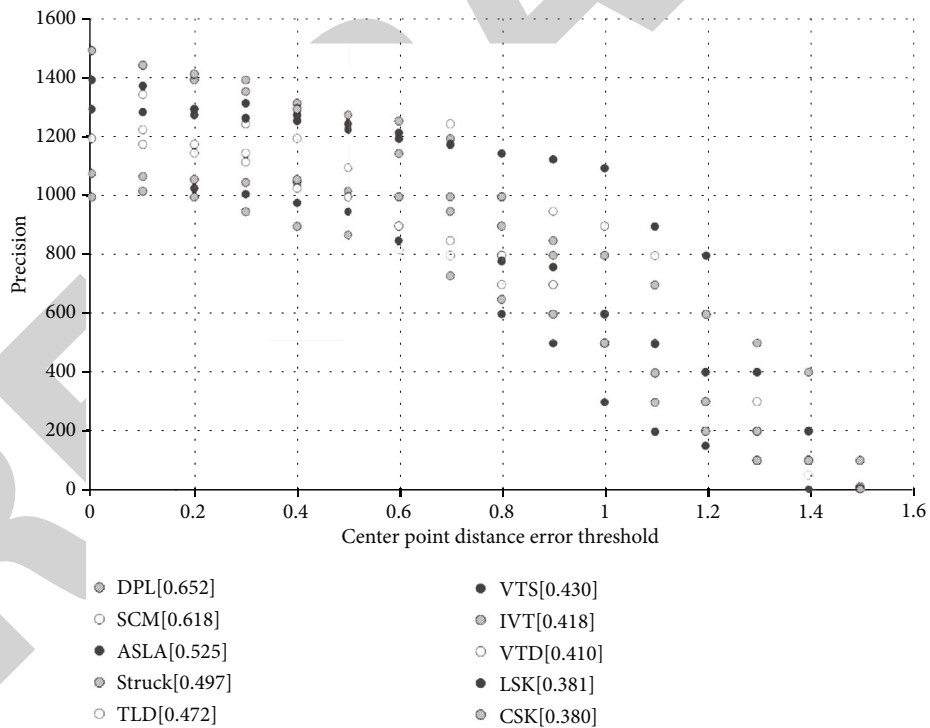


FIGURE 6: Overall average success rate of target tracking algorithm in all guidance sequences.

Tourism itself is a learning process to increase knowledge and broaden one’s horizons. Whether it is a cultural landscape or a natural landscape, tourists often get education and enlightenment from it and benefit a lot. While visiting the landscape, the function of picture explanation presented by the tourism logo guidance system enables tourists to get in-

depth information of scenic spots and strengthen their understanding of scenic spots. Design serves people, and audience feedback is an important criterion for evaluating the design level of a city’s visual orientation system. Since this case was put into use, it has received a large number of feedbacks from all walks of life through field visits, questionnaires, and other



FIGURE 7: Indoor guidance system design.

TABLE 1: The brand image of ancient “Fu Lu Shou”.

Source of color symbols	Color impression	Color expressions and functions
Building, brick	Blue, grey	Ordinary, moderate, stable
Yellow earth	Naturals	Beach, homeland, composure, stability
Fu Lu Shou Xi	Red, yellow	Red: enthusiasm, happiness, attention; yellow: noble, high reputation
Ethnic traditional clothing	Blue, blue	Sky, eternity, reason, elegance, moderation
Traditional furniture	Brown	Classical, earthy, gentle, harvest

methods. After summarizing and analyzing these feedbacks, we can draw the conclusion that the practical application effect of this case is good. The interactive electronic touch screen guidance system is more convenient and effective, which is a model of the combination of high-tech and cultural industries. However, if the interface design is too complex, this setting will be in vain, especially for the elderly. Therefore, how to make interaction design more humanized, more intuitive, and easy to use will become the primary problem beyond modeling. Form serves function, and style and culture will be the focus after solving the basic problems as shown in Figure 7.

The excellent environment of tourist attractions is one of the attractive factors of tourist attractions, and it is the foundation and guarantee for the sustainable development of tourist attractions. The environment of the scenic spot includes natural ecological environment and social cultural

ecological environment. There are many precious natural resources in the natural ecological environment of tourist destinations, such as rare tree species and rare species. There are many cultural heritages of human material civilization in the social, cultural, and ecological environment, such as landscape gardens and historical relics. These are nonrenewable resources.

In the design, the symbolic elements are summarized and refined in the visual graphic language, and the above information is integrated into a concise graphic symbol as much as possible by using abstract and concrete expression techniques. For example, the three stars of “happiness, wealth, and longevity” worshiped by the ancient people have lofty symbolic significance in the eyes of the common people. This kind of symbolic decoration technique is used in many places in Taigu Sanduotang. The “big mirror inlaid

with snail” is inlaid with the “Fu Lu Shou” three-star pattern. There is also this saying that when you look at the face of the lucky star as red, it is “the lucky star shines brightly.” If you look at Lu Xing’s face as green, it is “everything comes true.” If you look at the face of the birthday girl as yellow, it is “prolonging life.” Some blue-gray systems with lower purity represent the main tones of architecture and traditional clothing and can also trigger people’s nostalgic plots. From the perspective of harmony with the environment, khaki is also an important element. It can be said that a reasonable color positioning is the most intuitive reflection of the brand image, and it is also the first part of the visual experience. The details are shown in Table 1.

The tourism destination visual guidance system is a symbol interpretation system, which is completely a product of artificial design. Its main function is to guide and help tourists perceive the tourism image and activity function on the spot; conveniently, quickly, and clearly complete tourism activities; eliminate the tension caused by uncertainty when tourists enter the unfamiliar tourism destination environment; and help explain the tourism destination perceived environment, so as to achieve the clear and understandable features required by the tourism terrain image.

5. Conclusions

This paper studies and explores some key technologies of deep learning in the field of computer vision symbols. Combining the old and new computer vision problems such as vision-oriented image retrieval and classification, some corresponding key technologies and solutions are proposed. Try to sort out the design principles of individuality and commonness, the unity of nationality and modernity, and the function and form of visual symbols of urban tourism image. In view of this, this topic studies semiotics, urban tourism image, visual image design, and other related theoretical monographs. Various interactive display modes analyze the design methods and future development trends of the visual symbols of urban tourism image from three perspectives: image generalization, collection induction, and symbol implication. Guide and help tourists perceive the tourism image and activity functions on site; complete tourism activities conveniently, quickly, and clearly; eliminate the tension caused by uncertainty when tourists enter the unfamiliar tourism destination environment; and help explain the tourism destination’s perceived environment, so as to realize the clear and understandable features required by the tourism destination image.

Data Availability

The 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 known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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