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Regional Dance Image Feature Recognition Model and Contemporary Inheritance Modeling Algorithm Based on Intangible Cultural Heritage Filter Algorithm

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Abstract:Combining the characteristics of blockchain technology with distributed ledger, consensus mechanism, encryption algorithm, etc., this paper proposes a filtering algorithm based on intangible cultural heritage, builds a video tracking scanning imaging model of dancers in ethnic areas, and detects the edges of video images of dancers in ethnic areas. The contour model is used to enhance the video images of dancers in ethnic areas according to the initial contour distribution, and establish a visual perception model of the dancers in ethnic areas. Sequence, the posture probability of the observation sequence is obtained through the forward-backward algorithm, and the corresponding posture of the hidden Markov model with the largest observation sequence probability value is the dance tossing posture that needs to be recognized.

Keywords: Regional Dance Image, Image Feature Recognition, Contemporary Inheritance Modeling, Intangible Cultural Heritage Filter

1. INTRODUCTION

With the informatization of weapons and equipment, weapons pursue the ability to accurately hit the target, and electronic image stabilization has become an important design requirement for missile-borne, airborne, and shipborne optoelectronic equipment [1]. Electronic image stabilization is based on the correlation of image information between frames of video image sequences and uses image processing methods to shake the camera system. It uses CCD to replace the traditional holographic dry plate to record holograms and uses computer simulation of reference light to achieve object light wavefront reproduction [2]. The traditional holographic technology needs to perform chemical wet processing on the recorded object and cannot directly obtain the object data information.

Digital holography technology and its applications are more and more popular, and its application range is very wide, such as homeland security [3], optical security and encryption [4], and compressed holographic imaging [5]. The object of music image research is the visual artworks with musical themes or content that are copied and copied, including music (including dance) images handed down from ancient times and archaeological excavations, that is, art works (paintings) with music as the theme and involving music and dance phenomena. ,sculpture) [6]. After image acquisition, image processing and understanding are required, including image enhancement, image restoration, image compression, image segmentation, and object recognition [7]. The purpose of image restoration techniques is to improve images with degraded quality [8].

In the process of image acquisition or transmission, traditional identification methods can be divided into identification items (such as cards, keys, etc.) and identification knowledge (such as usernames, passwords, etc.). Disadvantages (such as easy loss or theft), it is easy to be impersonated. For example, the side-suppression comparison model proposed by hti et al. [9] based on features such as color, brightness, and direction can better detect salient objects in the case of low image signal-to-noise ratio.

This paper chooses the ELM algorithm as the learning method because ELM is faster than traditional learning algorithms in traditional neural networks, especially in single-hidden layer feedforward neural networks (SLFN), and the learning results are more accurate [10]. Generally speaking, image denoising methods can be divided into two categories, spatial domain filtering method and frequency domain filtering method. The spatial filtering method is to directly perform simple algebraic operations on the gray value of some pixels to estimate the noise-free gray value of a pixel, such as the neighborhood mean method, the neighborhood median method, etc. [11]

Among them, the mean value method has a good inhibitory effect on the particles in the image. In one frame of image, for the point target, its area only occupies one pixel point [12], and the grayscale is obviously different from the grayscale of the surrounding adjacent pixels. The difference is reflected in the frequency spectrum, that is, in the high-frequency part, which is similar to high-frequency noise [13]. At present, computer vision is widely used in image generation, vehicle monitoring, target tracking, etc., and has broad application prospects in various fields such as medical care, agriculture, and transportation [14].

In recent years, the ability of computer image processing has been continuously improved, and the development of computer vision has become more and more mature. At present, computer vision is widely used in image generation, vehicle monitoring, target tracking, etc., and has broad application prospects in various fields such as medical care, agriculture, and transportation. In recent years, the ability of computer image processing has been continuously improved, and the development of computer vision has become more and more mature. Deng et al. [15] constructed a 3-layer fully connected neural network for hand rotation angle estimation in hand detection. There are also feature matching methods based on SIFT [16-17], SURF [18] [19] and ORB [20] features.

Speckle noise is the most typical example. When a highly coherent laser is reflected on the surface of a rough object, the wavelets scattered by various points on the object are

coherently superimposed in space, forming a random distribution of spatial intensity and granularity. Laser speckle. The feature matching method has the advantages of high estimation accuracy and large angle estimation range, but the computational complexity of feature extraction and feature matching is relatively large. The speckle noise of reconstructed holographic images limits the development of all the above applications, therefore, image denoising has always been a hot research area in digital coherent imaging.

2. THE PROPOSED METHODOLOGY

2.1 The Non-Legacy Filter Filtering Algorithm

Experimental environment configuration: Python3.7, GTX2070, InterCorei9-9900KF3.60GHz CPU and 16GB memory. In order to verify the performance of the algorithm in this paper, the manual collection of rotating video and image data is used to test the performance of the grayscale projection method and the GPCF algorithm respectively. BM3D is known as the state-of-the-art in image denoising. The algorithm includes basic estimation and final estimation, each of which is realized by three operations, block matching, 3D collaborative filtering in sparse domain, and reconstruction, respectively.

BM3D is also used to suppress speckle noise in digital images. When applying the noise-based detection method for image filtering, it is obvious that the detection performance of the impulse noise detector is very important. Noise detection often produces more noise misjudgments and missed judgments. Among all color spaces, CIELAB color space is often used as color in the field of visual computing because it separates luminance components and chrominance components.

It will directly affect the final filtering effect. Machine learning performs well in dealing with pattern classification and regression problems. Various machine learning methods such as BP neural network, support vector machine, Bayesian decision-making and other methods are widely used in the fields of fingerprint recognition, face recognition and multi-biometrics recognition. This paper proposes a text line sequence recognition algorithm consisting of three steps: feature extraction, sequence modeling and sequence prediction. In order to improve the accuracy of the recognition model for characters of different scales in text line images, a convolution module that can obtain adaptive receptive fields is proposed. Kuan filtering is a weighted adaptive filtering algorithm, which is used to filter out speckle noise, Smooths the image without affecting the edges of the image. Its main features are: First, the multiplicative noise is converted into signal-related additive noise.

2.2 The Regional Dance Image Feature Recognition Model

The objective indicators of the four algorithms in Figure 3 are further compared, and the experimental results are shown in figure 1. Through the objective index analysis in Figure 2, the PSDN increases by as much as 90%. RMSE is reduced by up to 50% and SSIM is improved by up to 105%. The analysis of the musical tone level needs the support of the corresponding interpretation theory system, that is, the musical morphological system. Although the basic theory about the form of Chinese local music has a history of thousands of years, for each pixel in the image, a filtering window (usually 3×3) is determined with the pixel as the center, and each pixel in the window is first calculated to all other the aggregation distance of pixels, and then select the pixel with the smallest aggregation distance to replace the central pixel of the filter window.

The arc-shaped profile is more consistent with the principle of aerodynamics and can effectively reduce the effect of wind loads. In this regard, some high-rise building complex planes can use elliptical or circular shapes. This chapter mainly studies the text recognition algorithm of travel document images, text recognition Converting images containing text information into strings that computers can efficiently read and write. Text recognition algorithms can be roughly divided into two categories: character-level text recognition algorithms and sequence-level text recognition algorithms. Extreme learning machine is a single hidden layer feedforward neural network, which has the advantages of fast training speed and strong generalization ability and is suitable for classification and regression problems. In this paper, an extreme learning unit is used to build a deep learning model - stack extreme deep learning machine, which is used to extract high-level feature representations of biometric images.

From the overview and brief analysis of the above four speckle noise filtering algorithms, they are all based on the different characteristics of the speckle noise image, and different pertinent speckle filtering algorithms are obtained by using different mathematical tools. In modern times, there are also a series of research results by scholars such as Yang Yinliu, but there are not many achievements in extracting music theory and rhythm theory from the melody level of native music of many ethnic minorities in China. The new filtering algorithms we propose include: Two distinctive features. First, a simple impulse noise detector is employed, which can quickly and efficiently detect noisy pixels in color images. Second, in the construction of RNFN, a new membership function is adopted.

2.3 The Image Feature Recognition Model and Contemporary Heritage Modeling Algorithms

Guided image filtering is an edge smoothing filter that can achieve image edge smoothing, detail enhancement, and image fusion denoising. It is a powerful filter. The shape completely imitates the gourd. The playing images depicted on the bronze cucurbit sheng and other bronzes show that the cucurbit sheng played an important role in the daily life of the Yunnan people. In the ancient Dian culture period from the Warring States Period to the Western Han Dynasty, the gourd Sheng made by hollowing out the gourd was widely used by ordinary people.

There are 10 images under each directory, and each directory represents a different person. All images are stored in PGM format, grayscale, and the image size and width are 92X112. All images were taken against a dark, uniform background, with frontal faces (some with a slight sideways bias). Image saliency is both global and local. The feature extracted above, the color is only one of the attributes based on a certain pixel, which can be easily used to calculate the global saliency and can also be used for regional comparison. Texture is a region modulo Gaussian filter is a linear smoothing filter, which can remove the details in the image and reduce the noise of the image. In this algorithm, Gaussian filtering is used to eliminate high-frequency noise and at the same time overcome boundary effects. Action recognition has experienced a long development process, and gesture recognition and body motion recognition are all low-level human motion analysis.

The essence of action recognition in dance video images is motion recognition, which belongs to the advanced stage of human motion analysis. The SIFT feature point matching method is used to calibrate the continuous rotation video image data (the rotation angle of the video changes from 0° to 20°), respectively. The estimation results of the grayscale projection method and the GPCF method are compared with the calibration results. Table 2 shows the grayscale projection method under the input size of 360*360pixel and 720*720pixel.

3. CONCLUSIONS

Based on the filtering algorithm of intangible cultural heritage, this paper studies the tracking technology of dancers in ethnic areas, analyzes the movement characteristics of dancers in ethnic areas, and conducts expert guidance and judgment through feature extraction methods to improve the pertinence of training and the ability to standardize and correct movements. A tracking technology for dancers in ethnic areas based on contour model and AdaBoost algorithm is proposed, which effectively improves the accuracy of dancing tossing gesture recognition using Hidden Markov Model. And through experiments, it is verified that the model in this paper can effectively recognize the dancing and tossing gestures in the video with or without shadows, and the recognition accuracy is high.

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