Research Article

Digital Art Feature Association Mining Based on the Machine Learning Algorithm

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With the development of computer hardware and software, digital art is a new discipline. It uses computers and digital technology as tools to perform artistic expression. It can be expanded to various binary numerical codes with computers as the center and can also be refined to various categories of creation with computers. The research scope is set in the field of digital art, and all kinds of accidental factors of digital art creation based on the machine learning algorithm are mined and analyzed for feature correlation. Based on the hidden association relationship of massive data, the study focuses on the implicit association mining of digital art features of data for the recommendation algorithm. The classification and continuous data feature attributes are introduced and discretized, and the binary representation of data features is extended to ensure the diversity of data feature attributes. In order to mine some correlation features in data, a heuristic feature mining method based on minimum support was studied to discover the frequency of correlation features and construct the optimal feature subset. Based on the frequent items of data features, this study observes the heuristic algorithm of digital art feature association mining based on minimum confidence and carries out feature matching based on digital art feature association mining under different situation modes. The validity of the proposed algorithm is verified by using the experimental data of health and medical situations in the machine learning library.

1. Introduction

Digital art is a kind of "technology-based art" in a real sense. This technology-based art, born in the new technological environment with the support of high technology, has greatly expanded the expression space of traditional art and even moved the aesthetic experience of human beings into a seemingly completely unfamiliar field. In this process, we find that the boundary between art and technology is gradually fading or even disappearing, and new technology provides a new "digital platform" for the development of art. Interactivity plays an increasingly important role in “digital art design.” In the traditional art, from the artist to the artwork and then from the artwork to the viewer, the aesthetic is characterized by “one-way effect” [1, 2], which is generally irreversible.

The high-speed and fast information exchange brought by digital art has gradually homogenized the artistic and cultural spirits of different nations. As once predicted, electronic media have destroyed all traditional boundaries with its powerful "symbolic violence" and culture tends to be homogenized and polarized [3, 4]. When people sigh over the dazzling visual effect brought by digital design, they often have the feeling of emptiness after dazzling, which is due to the lack of profound ideological connotation of traditional art. In addition, the diversity of digital art not only shortens the aesthetic distance between the art audience and the works of art but also makes the viewers lose their imagination to some extent, resulting in the digital art design works lose the meaningful and lasting charm of the traditional works of art. In such a case, the combination of the "high-tech" of digital art and the "profound culture" of
Chinese national tradition is particularly important [5]. Digital art design should absorb the nutrients of traditional culture and art and reconstruct it in the process of creation, so as to improve the cultural added value of contemporary digital art design.

Digital art, as the artistic essence of national culture, is integrated into modern digital art design on the basis of understanding its form, meaning, and spirit, so as to make digital art not only rich in traditional aesthetic implication but also with the characteristics of the times, to make it in line not only with the world design language but also the Chinese traditional aesthetic thoughts for further promotion and dissemination. Based on the above analysis, the study of the characteristics of specific areas environment association mining and the predictive recommendation algorithm, combined with the feature of current association mining and the prediction algorithm in solving the problem of digital art in the present problem, is put forward based on the characteristics of the relationship between the characteristics of digital art association mining and the feature matching algorithm, which has the function of the implicit feature extraction feature association mining and the prediction algorithm based on the anomalous characteristics of machine learning association mining and the prediction algorithm, and combination of different recommendation algorithms advantage of cascade weighted the hybrid personalized recommendation algorithm. On the one hand, these methods use their own structural characteristics to deal with the problems of feature association mining and recommendation, and on the other hand, they combine the advantages and characteristics of traditional feature association mining, prediction, and recommendation algorithms to solve the problems of feature association mining, prediction, and recommendation sequentially and in stages. In view of the characteristics of the existing association mining, prediction, and the recommendation algorithm for a particular problem has not been systematic in the field of work, this study puts forward the suitable for the characteristics of mining associated in specific areas, prediction, and the recommendation algorithm of machine learning technology to solve the new features of high accuracy association mining and prediction and recommendation problem which is of great significance.

2. Related Work

About the digital art design this emerging discipline domestic literature, analysis of the occurrence of aesthetic reconstruction, rheological, and contemporary context, aesthetic reconstruction is analyzed emphatically in the next few direction [6], which named digital art aesthetics is a new aesthetics research field, it has a distinct characteristic of our times, and at the same time, there is a long-standing tradition of aesthetics. As machine learning technology matures, it will be used in entertainment, education, and the arts, as well as in the military, aviation, business, and other fields. For example, the virtual scene of the studio is set up, and the virtual scene of the game is set up, such as the virtual surgery apparatus [7] and the virtual physics laboratory. Whether virtual or real, its vivid visual, auditory, and tactile interactive interface embodies a high degree of integration of art and technology. As transmission displays information of the machine learning technology, the potential applications of the ability in the field of art is hot machine learning which cannot be underestimated by on-the-spot engagement, and interaction ability can be the art of static (such as the traditional Chinese painting, oil painting, and sculpture) into the art of dynamic [8] and can let the viewers more intuitive grasp of the artist’s thought; in addition to this, machine learning can improve the performance of art, such as nine virtual musician place related immersive enjoy singing and playing musical instruments, and the viewer can use machine learning technology of virtual real concert [9]. However, no matter how the machine learning technology develops, it is always a reflection of the real world. Without the enrichment of art and culture in the real world, the machine learning technology cannot better reflect the vivid effect brought by the virtual world [10]. Only by giving full play to and learning from the rich humanities, arts, thoughts, and emotions in the real world, machine learning technology can be fully utilized, and virtual scenes and virtual game interfaces become more artistic and emotional [11]. Therefore, as a cutting-edge field of digital art, virtual reality reflects more the integration of art and technology and is also the development trend of digital art.

Association rule mining is an important branch of machine learning. It studies the relationship between different characteristic attributes in the dataset. In the process of association rule mining, datasets need to be scanned several times and matched and counted with candidate frequent feature attribute items. Due to the massive nature of datasets, feature matching and the calculation process need a lot of time, so the efficiency of the algorithm is the key to association rule mining [12]. The basic idea of the classical association rule mining algorithm is to scan candidate feature attribute items in the database repeatedly, and each iteration only considers the current k-frequent item set and finally forms candidate frequent feature attribute itemset [13]. Through the construction of frequent pattern tree [14], the FP-growth algorithm mines candidate feature itemsets, which can effectively reduce the time complexity of the algorithm and reduce the size and number of candidate feature itemsets. Compared with the Apriori algorithm, it can significantly improve the efficiency and performance of the algorithm. An algorithm based on sampling and information granulation is proposed [15]. The basic idea is to obtain rough subset samples of candidate feature itemsets by sampling the candidate feature itemset, remove the frequent feature items, and then continue sampling from the simplified dataset and cluster them into some information particles. Since the sample obtained is a subset of the candidate feature item set, the formed frequent feature itemset is a local frequent itemset pattern rather than a global frequent itemset pattern. While satisfying the efficiency, the mining accuracy of the frequent feature itemset is sacrificed. An association rule mining algorithm based on uniformly distributed uncertain data [16, 17] was proposed. The basic idea was to divide large datasets into smaller datasets by
using generalization values for parallel implementation and then to prune frequent itemsets by constructing uncertain frequent pattern trees. However, the construction of complex feature itemsets would ignore some feature items. An algorithm for mining association rules based on itemset life cycle constraint is proposed. The basic idea is to make conditional constraint through itemset life cycle and to mine association rules of fuzzy time series by discretizing time series data with fuzzy set theory. The algorithm only mines the subset of association rules, without pruning association rules under constraints [18, 19], which can effectively improve the efficiency of association rule mining, but the algorithm is restricted by membership function and fuzzy parameters. The mining algorithm is proposed based on division enhanced; its basic idea is to put the candidate itemsets physically divided into overlapping each other and a smaller subset of the local characteristics of frequent itemsets mining, at a time and then merge all local characteristics of frequent itemsets, to build a global all possible [20, 21] characteristics of frequent itemsets; the algorithm can effectively reduce system response time and the communication cost but easy to cause frequent feature itemsets build by mistake. Machine learning will mark different samples separately. Generally speaking, the value of labeled samples will decrease, while the amount of unlabeled information is large, and these data are closer to the real data distribution [22, 23]. Category tagging needs to be performed manually, and tags are numerous and costly. The solution is to train the dataset with as few tags as possible and as much data as possible. Common methods include the expectation maximization method, learning unlabeled datasets, training the learner with data samples [24], direct deduction method, by learning unlabeled samples and only a small number of samples with the minimum prediction error and temporarily gives up the global optimality of subsequent instances [25]. The effect will be significantly improved if these processed sample sets are classified again. Direct push support vector machine (TSVM) is used to classify text. Learning targets are unlabeled samples and sets belonging to positive examples [26]. An active learning algorithm for support vector machines is proposed [27]. These methods have high classification accuracy and only label a small number of sample sets. However, the defects of these algorithms are also obvious. Although they partially solve the problem of category marking, a large number of iterations are also carried out, and the algorithm complexity is very high. In addition, how to compare the efficiency of these different learning methods with unlabeled samples is also a research topic.

Traditional art creation is based on profound cultural deposits and historical origin, which contains numerous regional customs and national culture. The rich forms of traditional artistic essence contain profound cultural accumulation, national psychological feelings, customs, aesthetic concepts, and aesthetic tastes [28, 29]. The traditional art reflects the profound history tradition numerous styles and schools and broad regional ethnic culture, as well as the traditional painting style and traditional art cultural origin, in psychological and emotional communication triggered a strong affinity, the resonance of the soul. The new digital art creation is developed on the basis of science and technology and industry. It lacks the basis of traditional culture in aesthetic emotion and has great limitation in content and form of expression, which makes people strange and alienated in cultural heredity, only in the process of digital art expression, continuous absorption of different cultures, and various disciplines of mutual supplement, and reference is the fundamental development of digital art. Therefore, the combination of national excellent traditional culture and art forms is to constantly enrich the charm and vitality of digital art design. Enrich digital art creation with traditional art, especially national culture and art, in order to make up for the deficiency of cultural connotation in digital art creation and solve the visual expression existing in modern digital art creation, as well as the problem of understanding and development direction. Association mining and the prediction and recommendation algorithm is based on the existing in dealing with the problems existing in the specific scene environment; this study is on the characteristics of digital art association mining machine learning environment problem and the prediction and recommendation algorithm to discuss how to the characteristics of digital art scene in machine learning environment, according to their own characteristics of relevance and the corresponding application environment requirements, the characteristics of the model building of the association mining and the prediction and recommendation algorithm carries on the reasonable design to maximize and meet the personalized recommendation and feature association mining accuracy.

3. Research Framework for Feature Association Mining in Digital Art Machine Learning

In order to systematically improve the accuracy of feature association mining and the prediction and recommendation algorithm, this study proposes the model and framework of feature association mining and the prediction and recommendation algorithm based on machine learning of the digital art feature association. It starts from three aspects of feature correlation, feature missing, and feature abnormality and is solved in different scenarios. The research framework of this study is shown in Figure 1.

For digital art feature association mining, the traditional Apriori algorithm is based on support pruning technology and downward closure principle and adopts the layered complete search algorithm (depth-first). The function of the algorithm is to mine the feature itemset with minimum support. First, the algorithm generates the feature itemset list of a single element, calculates the feature itemset satisfying the minimum support by scanning the dataset, and deletes the feature itemset not satisfying the minimum support. The feature itemsets of a single element are combined to generate feature itemsets of two elements. Then, the dataset is rescanned to remove the feature itemsets that do not meet the minimum support, and the process is repeated until all feature itemsets are deleted. When calculating the support degree of feature itemset, all records in the dataset need to be compared, and with the increase of the number of data sets, a
large number of candidate feature itemsets will be generated. Therefore, the pruning-based technology cannot reduce the system overhead, and the algorithm complexity is high.

In order to reduce the cost of the system, influenced by heuristic computing and bionic computing, machine learning algorithms are often used to solve combinatorial optimization problems and shortest path problems, which are very similar to the problem of digital art feature association mining. First, for the shortest path problem, the machine learning algorithm establishes the solution space from the starting node based on the step-by-step decision scheme. According to the local information at the edge of the connecting node, the moving target is randomly selected according to a certain probability, and finally, a feasible solution for each ant is formed. And the process of the characteristics of frequent itemsets mining, whether based on top-down and bottom-up based search strategy, is through the add and remove feature to obtain frequent feature set, and machine learning algorithms of mining step by step the ideological unity of the feasible solution space and the nodes of the shortest path problem and frequent features concentrated can be regarded as a feasible solution space of the node. Second, according to the characters of the Bayesian network relationship analysis, Markov independence reasoning is when we do not know a feature set of the class instance identifier, so these traits were independent of conditions between, through the characteristics of the simultaneous occurrence of frequency characteristics of the relationship between items, similar to the shortest path problem in the distance of the relationship between nodes, when we do not know if the current path is optimal solution, and the feasible solution space between the nodes was independent of each other. At the same time, because the shortest path problem is a combination of feasible solution space, the structure of the optimal solution was an np-hard problem, usually needed for the discovery of heuristic strategy; so we will often feature the itemset mining process as a combinatorial optimization problem, in a relatively short period of time to dig to maximize the combination of feature set and reduce the redundancy of frequent candidate feature set number combination. Above all, independent feature relation condition is the premise condition of strategy obtained by using the heuristic; therefore, frequent feature set and the digital art characteristic problem of mining association mining and machine learning algorithms can be used, by calculating the heuristic feature collection of useful information, frequently uses the properties of pheromone and machine learning algorithms to guide features of frequent itemsets, and finally the characteristics of the digital art association mining model.

Figure 1: Research framework of feature association mining in digital art machine learning.
Feature nodes are connected to the edge of the frequency and pheromone as a heuristic algorithm to choose the next feature item node information, but by the characteristics of \( n \) nodes to build the undirected graph, the characteristics of each attribute node itself with support frequency information, so the heuristic function is also want to consider feature node’s own support frequency information. Ants from the heuristic information and pheromone, the influence of the feature subset to meet minimum support constraint conditions, make every choice of feature item of feature subsets are frequently, from a collection to add feature subset \( S, F \) to excavate out the set \( F \) more frequent feature subset, form the feasible solution set of the problem. Then update the pheromone and other information of feature items, and continue to search for feature items until the end of iteration. Table 1 presents the pseudocode of digital art feature association mining based on the improved machine learning algorithm. \( I \) is the number of iterations of the machine learning algorithm, and \( H \) represents the digital feature association library.

Based on the above frequent feature itemsets and the digital art feature association mining algorithm, a feature matching algorithm based on digital art feature association mining is proposed. For example, digital art information and associated characteristics match, according to the characteristics of digital art association mining in the library, has been the invention of digital art feature association mining with digital art feature matching, when to meet for a digital art feature association mining, digital art category id corresponding count, when all the characteristics of digital art association mining after the match, statistical digital art belongs to the probability of each category identifier, and candidate information list. The advantage of the algorithm is that it is based on the existing digital art feature association mining database, there is no cold start problem of new digital art, and it can directly match features according to the personal health information of digital art. Table 2 presents the pseudocode of the feature matching algorithm based on digital art feature association mining.

The digital art feature matching algorithm based on the machine learning algorithm needs to match each digital art feature association mining in the digital art feature association mining database with the current digital art, and the time complexity is \( O(n) \). In the calculation process based on top- \( n \), the algorithm obtains the recommendation list information through the heap, and the time complexity of building the maximum heap is \( O(N) \). After the algorithm pops the maximum value out of the heap, the time complexity of adjusting the heap is \( O(\log N) \), so the time complexity of heap maintenance is \( O(N) \).

After data cleanup, the digital art feedback and comment text is basically with little English and emoticons mixed in (using the display appearance of specific characters in the computer character code table, arranging their combination order to form a pattern depicting the facial expressions and movements of digital art figures). This study only conducts sentiment analysis for simplified Chinese. Although other components have emotional components, their proportion is small enough after data cleaning, and their influence on experimental samples is negligible.

As Figure 2 shows, digital art text data are typically just a set of characters in the initial phase. Any form data to analyze the datasets the smallest element, and the word segmentation is the first step in natural language processing; although digital art text has been stored in machine-readable format, digital art text analysis of the process also needs to be the smallest form of text morphemes, one by one. Therefore, the basic requirement of digital art analysis is text segmentation.

4. Research on the Machine Learning Feature Association Mining Model of Digital Art Contingency

There are many forms and types of digital art, and every category of art provides creativity and modeling for the development of digital art. Digital painting, photography, film, and television special effects have their own unique characteristics. In the digital art creation, the different feeling of the software and the way of expression will lead to the same creation element and the different display form of the picture effect, which can drive the change of aesthetic ability and appreciation angle. This kind of different aesthetic ability and appreciation angle can give it more of its own characteristics and artistic appeal and can counteract the research and exploration of this creation category.

Rooted in digital art digital technology because the rich and variety of forms of language has the limitation beyond other types in artistic charm, without receiving study and material constraints and without receiving limit of the ink thickness, more precise measures, as well as convenient printing and spread, these advantages favored by the artists and love, the young arts, has a strong vitality and provide the vast space and the possibility of the artistic performance.

The characteristic attributes of digital art are usually divided into dominant data and recessive data. The dominant data are the characteristic information clearly expressed by the characteristic attributes of digital art. Explicit feature association for prediction means that are known feature attributes and classification results of digital art can be predicted directly through known feature attributes and other information and that digital art with similar feature attributes may have other similar feature attributes, which is the idea of the prediction classification algorithm based on collaborative filtering. It is a typical collective intelligence method to search for similar digital art through the individual characteristic attributes of digital art and to recommend the characteristic attributes of similar digital art to the current digital art for prediction and classification. The predictive classification algorithm based on neighborhood collaborative filtering also includes two branches: the collaborative filtering algorithm based on digital art relationship (U-U matrix) and the collaborative filtering algorithm based on project relationship (I-I matrix).
Table 1: Digital art feature association mining algorithm based on the improved machine learning algorithm.

| Step | Description |
|------|-------------|
| 1    | For each diff y, l > 2 do 1 For each diff y, l > 2 do |
| 2    | y_i → H_i |
| 3    | F_i → i |
| 4    | For each j from 1 to m do The number of ants is m, and each ant locates a starting node |
| 5    | Select a feature randomly for each ant in F_i to build a subset T_i of each ant. |
| 6    | T_i → H_j; return, CARs (T_i → H_j) |
| 7    | Repeat each t |
| 8    | End for |
| 9    | Repeat |
| 10   | Select item t from F_i only based on state transition rules |
| 11   | Local pheromone update |
| 12   | End for |
| 13   | Memory current digital art features association mining car-rule s |
| 14   | Global pheromone update |
| 15   | Until the iteration ends |
| 16   | End for |
| 17   | End for |
| 18   | Return CARs |

Table 2: Digital art feature association based on the machine learning algorithm.

| Step | Description |
|------|-------------|
| 1    | L Number of digital art feature association mining |
| 2    | Preprocessing of digital art feature attribute items |
| 3    | Each digital art feature association mining in the digital art feature association mining database matches the current digital art |
| 4    | K is the value of digital art feature correlation mining preceding V is the value of digital art feature item |
| 5    | End for |

Figure 2: Digital art feature association word segmentation process.
The collaborative filtering predictive classification algorithm based on the relationship between digital arts predicts the missing value of the feature attribute and the classification result of the current digital art according to the same "evaluation" criterion, that is, according to the digital art with the same feature attribute as the digital art. If some characteristic attributes of digital art \( u \) and digital art \( v \) are the same, then the value of characteristic attribute of digital art \( u \) is similar to that of characteristic attribute \( f \) of digital art \( v \). The collaborative filtering based on digital art first constructs the digital art personal characteristic attribute data matrix, with rows representing digital art and columns representing characteristic attribute values, as shown in Table 3.

| Characteristics a | Characteristics b | Characteristics c | Characteristics d | Characteristics e | \( y \) |
|-------------------|-------------------|-------------------|-------------------|-------------------|---|
| Digital art a     | Y                 | Y                 | Y                 | Y                 | 1 |
| Digital art b     | Y                 | Y                 |                   | Y                 | 0 |
| Digital art c     |                   |                   | Y                 | Y                 | 1 |
| Digital art d     | Y                 |                   | Y                 | Y                 | 1 |
| Digital art e     |                   |                   |                   | Y                 | 0 |

The DB-PRBM model is an undirected probability graph model with the function of implicit feature extraction. The basic idea of the algorithm is to reconstruct the features of input data and carry out feature association mining and prediction for missing feature data. Based on the predictive feature attribute model representability theory, it is proved that the DB-PRBM model can simulate the real probability distribution. The calculation process of collaborative filtering feature association mining solution and the prediction algorithm based on implicit feedback is shown in Figure 3.

The first step of collaborative filtering feature association mining and the prediction algorithm based on implicit feedback is to train the weight parameters. The user’s personal feature information is taken as the training set, and the model training algorithm based on the elastic factor is used to calculate the weight parameters. The second step is to reconstruct user characteristic data by using network, which is accomplished in two stages: encoding and decoding. The process of user feature reconstruction needs to consider all
user feature units. It can not only reconstruct the original features of users but also identify the missing features. At the same time, the algorithm can predict the feature classification of the user and calculate the probability of the user belonging to feature category identification. Similarly, the top-N method is also used to sort and predict the probability of the user belonging to each feature category.

5. Results Analysis

This study discusses the validity of the mining algorithm of digital art feature association mining. First, the algorithm running time under different minimum support and minimum confidence is studied, as shown in Figure 4. The experimental results of the two datasets show that the change of the minimum confidence has little effect on the performance of the runtime, but the runtime increases exponentially when the minimum support is reduced.

As for the number of digital art feature association rules constructed by machine learning, as shown in Figure 5, the number of digital art feature association mining is similar to the running time, which increases exponentially with the decrease of the minimum support.

In order to verify the proposed feature matching algorithm based on the characteristics of digital art association mining (FM) CAR—the effectiveness of our CAR—the FM algorithm with the following representative feature matching algorithm is compared with field: the collaborative filtering algorithm based on user (user-based CF, feature matching based on the Apriori algorithm and based on the characteristics of the FP-tree matching algorithm, the algorithm and the characteristics of this chapter puts forward the matching algorithm has similarity and comparability. The experimental results are based on two evaluation indexes, namely, precision and mean absolute error (MAE), to evaluate the performance of the recommendation algorithm.
The experimental results are shown in Figure 6, representing the influence of top-n of the list length given by feature matching on the result of feature matching. It can be seen from the experimental results that the proposed feature matching algorithm based on the digital art feature association mining is superior to the representative feature matching algorithm in the field both in accuracy and average absolute error, which indicates that the proposed CAR-FM algorithm can effectively improve the effectiveness and accuracy of the feature matching algorithm.

As given in Table 4, the traditional machine learning model characteristics of the dataset of dermatology association mining accuracy rate is very low; the reason is the skin disease dataset of data that have more category classification identification, the lack of machine learning methods, and characteristics of the interpolation technology of combining the method that does not get better feature association mining accuracy. However, for the accuracy of feature association mining in chronic kidney disease data, the traditional machine learning method combined with the feature missing interpolation method can obtain a higher accuracy of feature association mining.

All the experimental results were analyzed, and the correlation feature mining method and the method proposed in this study were applied to benchmark data and
various missing features for comparative analysis, as shown in Figure 7.

In order to verify the choice of the optimal feature subset characteristics associated mining, by reducing the number of dimension and the feature vector data, whether can lower the complexity of algorithm, and improve feature association mining prediction accuracy, we use the following model for the optimal feature subset association mining accuracy analysis of the characteristics of a nonnegative matrix decomposition, such as principal component analysis, and naive Bayesian classifier; the experimental results are shown in Figure 8.

Compared with the traditional machine learning method, the improved weighted user collaborative filtering and the proposed feature implicit feedback collaborative filtering feature recognition method have higher accuracy in data missing feature recognition and prediction result classification. At the same time, the experiment through the isolation of the original dataset has irrelevant and redundant features properties, using the original data model identification for the optimal feature subset to prove that the different feature recognition algorithm for the optimal feature subset is used to identify the characteristics of accuracy, are higher than the original data set the same classification of feature recognition and prediction accuracy of the algorithm. The algorithm proposed in this study is also applicable to the same problems existing in the application of similar data in the field. The feature recognition method can effectively identify the missing features of data and classify and predict, which can prove that the algorithm proposed in this study has good universality and practical value.

6. Conclusion

As the digital dissemination of art leads to the diversification of creative subjects, the dissemination itself becomes a kind of creative behavior. It also enables the content and form an art to achieve maximum sharing. Sharing is to let everyone share the achievements of artistic progress and pass and spread the achievements and essence of art to others. This study presents a heuristic mining and feature matching algorithm for the digital art feature association mining based on feature relationship. Through Markov independent inference analysis of characteristic relation, the correlation relation of domain data hiding is calculated. The classification and continuous data feature attributes are introduced to extend the binary pattern of data features, and the heuristic feature mining is carried out based on the minimum support and minimum confidence, and the feature matching algorithm based on digital art feature association mining is proposed. Practical machine learning database feature and characteristics of digital art association mining frequent experimental results show that the heuristic characteristics mining algorithm can effectively mine feature the characteristics of the digital art association mining pattern to further improve the overall feature recognition effect, based on the characteristics of the digital art association mining feature matching algorithm that can effectively improve the accuracy of the feature matching algorithm.

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 conflicts of interest.

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