



# Integration of Big Database of College Teachers' Talent Construction from the Perspective of Human Resource Management

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**Abstract.** In order to improve the ability of college teachers' talent management and human resource management, and build a large database integration method of college teachers' talent construction from the perspective of human resource management, a large database integration method of college teachers' talent construction from the perspective of human resource management is proposed based on Internet of Things scheduling of information resources. A distributed detection model of university teachers' talent construction database from the perspective of human resource management is constructed. The Internet of Things is used to optimize the node deployment design during the integration process of university teachers' talent construction database from the perspective of human resource management. The routing node distributed detection protocol of multimedia sensor network is constructed. The semantic association rule detection method is used to extract the association features of university teachers' talent construction big data from the perspective of human resource management. In this paper, the extracted features of university teachers' talent construction big data from the perspective of human resource management are integrated and fused, and the fuzzy clustering method is used to realize the optimal integration and adaptive scheduling of university teachers' talent construction big database from the perspective of human resource management. The hierarchical scheduling and integration model of university teachers' talent construction big database from the perspective of human resource management is constructed to realize the optimal design of university teachers' talent construction big database from the perspective of human resource management and improve the efficiency of database access and scheduling. The simulation results show that this method has high integration degree, good data clustering and good data checking performance in the large database integration of university teacher talent construction from the perspective of human resource management.

**Keywords:** human resource management perspective; College teachers; Talent construction; Large database; Integration

## 1 Introduction

The new era has given college teachers new requirements and new missions. This requires college teachers to have a solid professional theoretical foundation, flexible and innovative teaching concepts and methods, the ability to combine theory with practice, and innovative and cutting-edge theories. Teachers not only disseminate theoretical knowledge, but also teach learning methods and cultivate students' practical ability. Therefore, the construction of teachers in private colleges in the new era must improve teachers' professional quality, give full play to teachers' teaching and research ability and enhance teachers' scientific research level. Improve the overall level of teachers through teaching, teaching research and scientific research to meet the needs of the development of the new era. This paper studies the integration method of large database of university teachers' talent construction from the perspective of human resource management, and improves the human resource management ability of university teachers [1]. In view of human resource management, there is a high discreteness of big data sampling samples, so it is necessary to integrate the big database of university teachers' talent construction from the perspective of human resource management [2]. Combined with sensor node information fusion technology, an integrated model of university teachers' talent construction from the perspective of human resource management is constructed, and the big data fuzzy clustering method is adopted to integrate the big database of university teachers' talent construction from the perspective of human resource management, so as to improve the access and scheduling ability of university teachers' talent construction from the perspective of human resource management. It is of great significance to study the integration method of university teachers' talent construction database from the perspective of human resources management in optimizing the retrieval and query of university teachers' talent construction database from the perspective of human resources management [3].

The integration of university teachers' talent construction big database from the perspective of human resource management is based on the information fusion processing of data. This paper studies the big data mining method of university teachers' talent construction from the perspective of human resource management, constructs the parallel clustering analysis model of university teachers' talent construction big data from the perspective of human resource management, establishes the key sharing protocol of data encryption, and adopts the methods of big data fusion and clustering mining. In the traditional methods, there are mainly block detection method, matched filter detection method, fuzzy C-means clustering analysis method, association rule mining method, etc. [4]. The grid sub-regional scheduling model of the university teacher talent construction database from the perspective of human resource management is established, and data integration is carried out. Literature [5] puts forward the characteristics based on associated information Combined with the nonlinear statistical sequence analysis method, the statistical characteristics of big data of university teachers' talent construction from the perspective of human resource management are sampled, and the fuzzy information clustering method is used to realize the optimal integration of databases. However, the above-mentioned methods have high computational overhead and

high computational complexity. Literature [6] puts forward a large database integration method for university teachers' talent construction from the perspective of human resource management based on similarity feature detection, which combines deep learning method to adaptively optimize the process of big data mining for university teachers' talent construction from the perspective of human resource management, and adopts matched filtering method to realize the integration of big data for university teachers' talent construction from the perspective of human resource management. However, this method has poor anti-interference and low integration degree of data integration [7].

In view of the above problems, this paper proposes a large database integration method for university teachers' talent construction from the perspective of human resources management based on the scheduling of information resources in Internet of Things. Firstly, the distributed detection model of university teachers' talent construction database from the perspective of human resource management is constructed, and the fuzzy clustering method is used to realize the optimal integration and adaptive scheduling of university teachers' talent construction database from the perspective of human resource management. Then, the hierarchical scheduling and integration model of university teachers' talent construction database from the perspective of human resource management is constructed according to the Internet of Things networking protocol, and the integration optimization of ciphertext database is realized. Finally, the simulation experiment analysis shows the superior performance of this method in improving the integration ability of university teachers' talent construction database from the perspective of human resource management.

## **2 Distributed storage structure model of database and analysis of data characteristics**

### **2.1 Database distributed storage structure model**

In order to optimize the big data integration algorithm of university teachers' talent construction from the perspective of human resources management, the Internet of Things networking structure is designed by combining the big data storage structure model of university teachers' talent construction from the perspective of human resources management, and Weka statistical analysis method is used to carry out regression analysis in the integration process of university teachers' talent construction big database from the perspective of human resources management, and construct the feature extraction model of distributed storage of database. The data storage structure is analyzed, and the architecture model of big data grouping detection for college teachers' talent construction from the perspective of human resource management is established [8]. By extracting the statistical characteristics of the large database of college teachers' talent construction from the perspective of human resource management, the convergence control in the integration process of the large database of college teachers' talent construction from the perspective of human resource management is realized. When the correlation mapping of big data distribution of university teach-

ers' talent construction exists from the perspective of human resources management, it is represented as a sampling node distribution set  $\Phi(z) = (h(z), h(\varphi_1(z)), \dots, h(\varphi_{2d}(z)))^T$ , and the node distribution set of big data collection of university teachers' talent construction from the perspective of human resources management is as follows:

$$\begin{aligned}
 x_i^{(k+1)} &= (1-\omega)x_i^{(k)} + \frac{\omega}{a_{ni}} \left( b_i - \sum_{j=1}^{i-1} a_{ij}x_j^{(k+1)} - \sum_{j=i+1}^n a_{ij}x_j^{(k)} \right) \\
 i &= 1, 2, \dots, n \\
 k &= 1, 2, \dots, n
 \end{aligned}
 \tag{1}$$

Combined with vector quantitative analysis method, the optimal distribution model of big data storage nodes for college teachers' talent construction from the perspective of human resource management is constructed, and a directed graph model structure of big data for college teachers' talent construction from the perspective of human resource management is represented by a binary directed graph, which is the vertex set of the large database for college teachers' talent construction. It is the collection of all edges of big data of university teachers' talent construction in the limited domain distribution area from the perspective of human resource management. Assume that

$W = \{u, w_1, w_2, \dots, w_k\}$  and  $x_s = [x(\eta_1), \dots, x(\eta_N)]^T$  are Sink nodes of big data of university teachers' talent construction from the perspective of human resources management, adopt European distance to express the fuzzy association set of big data transmission nodes of university teachers' talent construction from the perspective of human resources management, adopt block area fusion method to adaptively configure and linearly encrypt the storage nodes of university teachers' talent construction big database, and the adaptive weighting coefficient of quantitative fusion of sensor nodes is  $N$ . From the perspective of human resources management, the information coverage area of university teachers' talent construction big data is assumed. The encrypted association pairing set of  $M$  storage nodes is assumed to be, and the Internet of Things routing detection protocol is adopted to carry out packet detection, and an information fusion model is constructed to obtain detection statistics. The estimation formula of similarity statistics eigenvalue is:

$$x_s = W_s^T y
 \tag{2}$$

In the process of data integration, the feature distribution is regular, and the database distributed storage structure model is designed, and the statistical feature set of big data of university teacher talent construction from the perspective of human resource management is obtained:

$$\max_{x_{a,b,d,p}} \sum_{a \in A} \sum_{b \in B} \sum_{d \in D} \sum_{p \in P} x_{a,b,d,p} V_p
 \tag{3}$$

$$\text{s.t. } \sum_{a \in A} \sum_{d \in D} \sum_{p \in P} x_{a,b,d,p} R_p^{bw} \leq K_b^{bw}(S), b \in B \tag{4}$$

To sum up, build a distributed database storage structure model, use the Internet of Things to optimize the deployment design of nodes in the integration process of university teachers' talent construction database from the perspective of human resources management, and build a distributed detection protocol of routing nodes in multimedia sensor networks to improve the automatic integration ability of ciphertext databases [9].

### 2.2 Internet of Things Design of University Teachers' Talent Construction Big Database Integration from the Perspective of Human Resource Management

A quadruple is used to represent the statistical distribution features of the university teacher talent construction database from the perspective of human resource management, which is the entity set (i.e. node sum) of the university teacher talent construction database from the perspective of human resource management, and is the interactive statistical data of the university teacher talent construction database from the perspective of human resource management. The association rules mining model of university teacher talent construction big data from the perspective of human resource management is as follows:

$$\begin{aligned} r(t) &= \sum_i \sum_{j=0}^{N_f-1} \sum_{l=0}^{L-1} b_l \alpha_l p(t - iT_s - jT_f - c_j T_c - \tau_l) + \omega(t) \\ &= \sum_i \sum_{j=0}^{N_f-1} b_i p_h(t - iT_s - jT_f - c_j T_c - \tau_0) + \omega(t) \end{aligned} \tag{5}$$

Wherein

$$p_h(t) = \sum_{l=0}^{L-1} \alpha_l p(t - \tau_{l,0}) \tag{6}$$

In addition,  $\omega(t)$  is the probability distribution value, and  $p_h(t)$  is the load between the big data Source and Sink nodes of university teacher talent construction from the perspective of human resource management. Using the Internet of Things detection protocol, the adaptive configuration model of storage nodes is constructed as follows:

$$\begin{aligned}
 X &= [s_1, s_2, \dots, s_K] \\
 &= \begin{bmatrix} x_1 & x_2 & \dots & x_K \\ x_{1+\tau} & x_{2+\tau} & \dots & x_{K+\tau} \\ \dots & \dots & \dots & \dots \\ x_{1+(m-1)\tau} & x_{2+(m-1)\tau} & \dots & x_{M+(m-1)\tau} \end{bmatrix}
 \end{aligned} \tag{7}$$

Wherein,  $K = N - (m - 1)\tau$  indicates the spatial embedding dimension of data storage nodes in the big database of university teachers' talent construction from the perspective of human resources management, which is a time delay. According to the above analysis, a big data storage structure model of university teachers' talent construction from the perspective of human resources management is constructed, and the average mutual information feature quantity of university teachers' talent construction big data from the perspective of human resources management is extracted [14]. The average mutual information quantity of university teachers' talent construction big data from the perspective of human resources management is:

$$I(Q, S) = H(Q) - H(Q|S) \tag{8}$$

Wherein

$$H(Q|s_i) = -\sum_j \left[ \frac{P_{sq}(s_i, q_j)}{P_s(s_i)} \right] \log_2 \left[ \frac{P_{sq}(s_i, q_j)}{P_s(s_i)} \right] \tag{9}$$

The decision tree model is constructed to design the automatic coding of the big database of college teachers' talent construction from the perspective of human resource management, and the fuzzy distribution set of big data of college teachers' talent construction from the perspective of human resource management is obtained as follows:

$$\Omega_i(t) = \frac{\gamma_{th} \sigma^2}{h_i [G - (N(I) - 1)\gamma_{th}]} \tag{10}$$

Under the optimized distribution protocol of Internet of Things, principal component analysis is carried out according to the fuzzy information of big data of university teachers' talent construction from the perspective of human resource management, and regional distributed reconstruction of data is carried out by using statistical analysis method. The spatial distribution set of big data of university teachers' talent construction from the perspective of human resource management including element node sets is set, and the feature distribution set of source domain data is set. It represents the user behavior set of big data of university teachers' talent construction from the perspective of human resources management. To sum up, it realizes the Internet of Things design of university teachers' talent construction big database integration from the perspective of human resources management, and improves the integration ability

of university teachers' talent construction big database from the perspective of human resources management [10].

### 3 Integration and optimization of large database of college teachers' talent construction from the perspective of human resource management

#### 3.1 Association feature extraction of big data for college teachers' talent construction

On the basis of the above-mentioned distributed detection protocol of routing nodes for constructing multimedia sensor networks, the semantic association rule detection method is adopted to extract the associated features of big data of university teachers' talent construction from the perspective of human resource management, and the extracted features of big data of university teachers' talent construction from the perspective of human resource management are integrated and fused [11]. Combined with nonlinear statistical sequence analysis method, the statistical feature sampling of big data of university teachers' talent construction from the perspective of human resource management is carried out, and the spatial distribution feature quantity of university teachers' talent construction big database from the perspective of human resource management is extracted. The extracted features of university teachers' talent construction big database from the perspective of human resource management are subjected to fuzzy clustering processing by gradient ascending regression analysis, and the fuzzy scheduling point set satisfies  $U^T = U^{-1}$ ,  $V^T = V^{-1}$ ,  $D \in R^{m \times M}$ , and the label attribute distribution relation of university teachers' talent construction big database from the perspective of human resource management is satisfied as follows:

$$x_{n,G} = x_{n,G} + \Delta x_i \tag{11}$$

In the cluster center, the adaptive fusion of the big database data of university teachers' talent construction from the perspective of human resource management is realized, and the optimal fuzzy feature classification set of big data of university teachers' talent construction from the perspective of human resource management is obtained as follows:

$$\mu_{ik} = \frac{1}{\sum_{j=1}^c (d_{ik} / d_{jk})^{\frac{2}{m-1}}} \tag{12}$$

$$V_i = \frac{\sum_{k=1}^m (\mu_{ik})^m x_k}{\sum_{k=1}^n (\mu_{ik})^m} \tag{13}$$

The gradient projection method is used for quantitative coding, and the regression coding characteristic value of the large database of university teachers' talent construction from the perspective of human resource management is as follows:

$$w_{BLCMV} = \tilde{R}_y^{-1} [a_t(\theta_0), C] ([a(\theta_0), C]^H \tilde{R}_y^{-1} [a_t(\theta_0), C])^{-1} \tag{14}$$

Wherein,  $C = [c_1, c_2, \dots, c_g]$  represents the block matching set of big data of university teachers' talent construction from the perspective of human resource management. The routing structure of multimedia sensor network is reorganized by using vector quantization coding method, and the key agreement is as follows:

$$U_{v_i} = \beta_{v_i} \times \log(1 + \partial_{v_i} \times \sum_{j=1}^K S_{v_i} e_j^T \frac{R_{C_j}}{n_{C_j}}), v_i \in v, C_j \in C \tag{15}$$

the specific window function of the large database integration of university teachers' talent construction from the perspective of human resource management is calculated, and the associated features according to the similarity feature detection method, and obtains the mutual information amount is extracted as follows:

$$I_{SM} = A_{SM} H \left( \sin \left( \frac{2\pi t}{\rho_{SM}} \right) \right) \left( 1 - H \left( \sin \left( \frac{2\pi t + D_{SM}}{\rho_{SM}} \right) \right) \right) \tag{16}$$

Wherein,  $A_{SM}$  is the amplitude of big data integration of college teachers' talent construction from the perspective of human resource management, and it is an adaptive adjustment parameter. According to the above analysis, in the networking mode of Internet of Things, random coding protocol is adopted to design the integration of big data of college teachers' talent construction.

### 3.2 Database optimization integration and adaptive scheduling

The semantic association rule detection method is used to extract the association features of big data of university teachers' talent construction from the perspective of human resource management, and the extracted features of big data of university teachers' talent construction from the perspective of human resource management are integrated and fused. By using deep learning algorithm, the optimization iteration formula of big data integration of university teachers' talent construction from the perspective of human resource management is obtained as follows:

$$x_i(k+1) = x_i(k) + s \left( \frac{x_j(k) - x_i(k)}{\|x_j(k) - x_i(k)\|} \right) \tag{17}$$



In which,  $\|\bar{x}\|$  represents the norm of  $\bar{x}$ , integrates and fuses the extracted feature quantities of big data of university teachers' talent construction from the perspective of human resource management, adaptively filters the big data of university teachers' talent construction from the perspective of human resource management according to the feature detection results, obtains the statistical distribution sequence of information flow of big data of university teachers' talent construction from the perspective of human resource management, and makes a set of regression analysis feature quantities. In the dimension reconstruction phase space, the scattered reconstruction of big data of university teachers' talent construction from the perspective of human resource management is carried out, and the distributed restructuring structure of big data of university teachers' talent construction from the perspective of human resource management is obtained as follows:

$$X(n) = \{x(n), x(n + \tau), \dots, x(n + (m - 1)\tau)\} \quad n = 1, 2, \dots, N \tag{18}$$

Among them,  $\tau$  represents the embedding delay of big data of university teachers' talent construction in high-dimensional phase space from the perspective of human resource management, and adopts fuzzy clustering method to realize the optimal integration and adaptive scheduling of the big database of university teachers' talent construction from the perspective of human resource management, and obtains the fuzzy concept set expression of the integrated output of big data of university teachers' talent construction from the perspective of human resource management as follows:

$$p(y | \alpha, \theta) = \sum_{k=1}^K \alpha_k p_k(y | \mu_k, \sum_k) \tag{19}$$

Using the Internet of Things detection protocol, the final output expression of human resource management data integration is obtained as follows:

$$FCM_{a \rightarrow b} = 1 - \frac{\sum_{i=1}^{|I_{a,b}|} \sqrt{(d_{a,i} - \bar{d}_a)^2 + (d_{b,i} - \bar{d}_b)^2}}{|I_{a,b}| \times \sum_{i=1}^{|I_{a,b}|} \left[ \sqrt{(d_{a,i} - \bar{d}_a)^2} + \sqrt{(d_{b,i} - \bar{d}_b)^2} \right]} \tag{20}$$

According to the above algorithm design, the integrated processing optimization of big data of university teacher talent construction from the perspective of human resource management is realized [12]. The implementation process is shown in Figure 1.

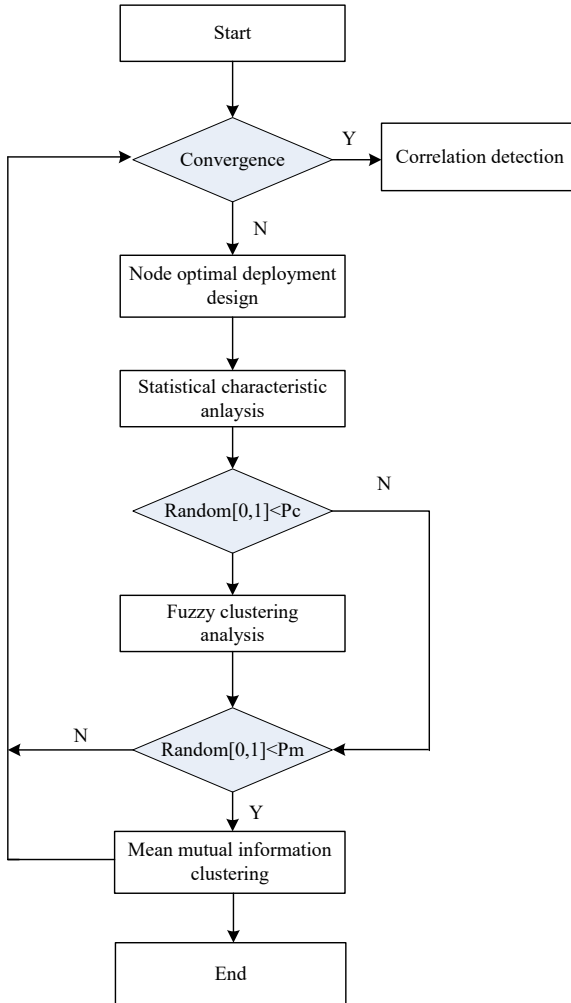
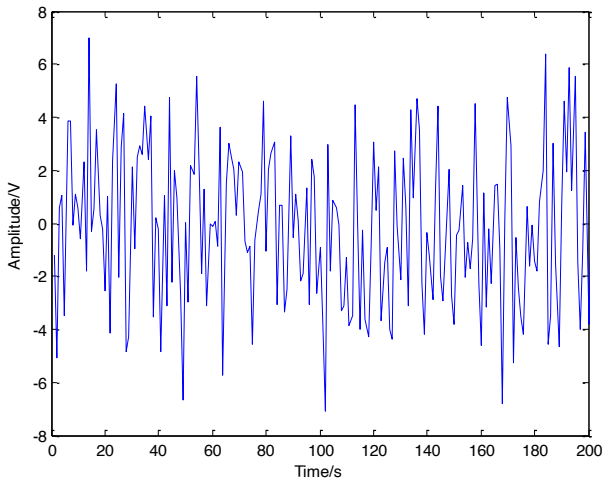


Fig. 1. Implementation flow

#### 4 Simulation experiment and result analysis

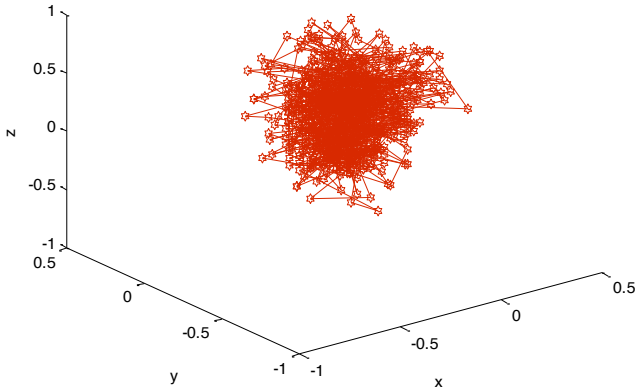
The application performance of this method in the integration of big data of university teachers' talent construction from the perspective of human resource management is verified by simulation experiment. The simulation experiment analysis is carried out by combining Matlab and C++ programming software. The sampling sample database of big data of university teachers' talent construction from the perspective of human resource management comes from the cloud combination database Pearson Database. The length of big data detection for college teachers' talent construction from the per-

spective of human resource management is 1200, the scale of training data set is 80, the statistical parameters are set as  $N_f = 16$ ,  $T_f = 120$  ns,  $T_c = 2.5$  ns, the hierarchical dimension of database is 5, the spectrum bandwidth of big data sampling for college teachers' talent construction from the perspective of human resource management is 24, and the number of iterations is set to 200. The sampling time delay of the big data of university teachers' talent construction is set to 0.6ms, and the reconstruction dimension of the data is 4. According to the above simulation environment and parameter setting, the big data of university teachers' talent construction is integrated from the perspective of human resource management, and the time domain waveform of data distrib



**Fig. 2.** Time domain waveform of big data distribution in college teacher talent construction

Taking the data in Figure 2 as the research object, the semantic association rule detection method is used to extract the association features of the big data of university teachers' talent construction from the perspective of human resource management, and the extracted features of the big data of university teachers' talent construction from the perspective of human resource management are integrated and fused, and the database integrated output is shown in Figure 3.



**Fig. 3.** Integrated output of large database of university teacher talent construction

By analyzing Figure 3, it can be known that the method in this paper can effectively realize the integration processing of the large database of university teachers' talent construction from the perspective of human resource management, and the information convergence of database integration is better and the convergence is stronger. Different methods are used to integrate the convergence and accuracy of the large database of university teachers' talent construction from the perspective of human resources management. The results are shown in Table 1 and Table 2. The analysis shows that the integration of the large database of university teachers' talent construction from the perspective of human resources management is high, the data clustering is good, and the data accuracy is good.

**Table 1.** Comparison of Convergence Degree of Database Integration

Iterations	This method	K-means integration	Particle swarm optimization
100	0.928	0.697	0.619
200	0.908	0.691	0.599
300	0.910	0.689	0.625
400	0.915	0.693	0.591

**Table 2.** Comparison of the accuracy of database integration

Iterations	This method	K-means integration	Particle swarm optimization
100	0.906	0.698	0.580
200	0.923	0.701	0.588
300	0.917	0.694	0.598
400	0.893	0.696	0.579

## 5 Conclusions

The fuzzy clustering method of big data is used, the university teachers' talent construction database from the perspective of human resource management is integrated, and the access and scheduling ability of the university teachers' talent construction database from the perspective of human resource management is improved. In this paper, a large database integration method for university teachers' talent construction from the perspective of human resource management is proposed based on the scheduling of information resources in Internet of Things. The architecture model of big data packet detection for university teachers' talent construction from the perspective of human resource management is established, the statistical features of university teachers' talent construction big database from the perspective of human resource management is extracted, and the routing node distributed detection protocol of multimedia sensor network to extract the average mutual information features of university teachers' talent construction big data from the perspective of human resource management is constructed, and the extracted features of university teachers' talent construction big data is integrated, so as to realize the optimization design of university teachers' talent construction big database from the perspective of human resource management and improve the efficiency of database access and scheduling. The research shows that this method has better precision rate and better data convergence level after the integrated processing of the large database of university teacher talent construction from the perspective of human resource management.

## References

1. Guan Zhaoxiong, Pang Weixin. Research on Virtual Resource Integration based on online Migration [J]. Automation & Instrumentation, 2018,3:59-62.
2. ZHENG Na, WANG Jiayang. Evidence characteristics and attribute reduction of incomplete ordered information system[J]. Computer Engineering and Application, 2018, 54(21): 43-47.
3. Wei-ke WANG, Yu-tong WANG. The Well-Posedness of Solution to Semilinear Pseudo-parabolic Equation[J]. Acta Mathematicae Applicatae Sinica, English Serie, 2019, 35(2): 386-400.
4. ZHAO Dan, SUN Xiangkai. Some Robust Approximate Optimality Conditions for Non-convex Multi-Objective Optimization Problems. Applied Mathematics and Mechanics, 2019, 40(6), 694-700.
5. LEE G M, LEE J H. On nonsmooth optimality theorems for robust multiobjective optimization problems. Journal of Nonlinear and Convex Analysis,2015,16(10), 2039-2052.
6. SUN X K, PENG Z Y, GUO X L. Some characterizations of robust optimal solutions for uncertain convex optimization problems. Optimization Letters,2016,10(7), 1463-1478.
7. ZHOU S B, XU W X. A novel clustering algorithm based on relative density and decision graph[J]. Control and Decision, 2018, 33(11):1921-1930.
8. HE H, TAN Y. Automatic pattern recognition of ECG signals using entropy-based adaptive dimensionality reduction and clustering[J]. Applied Soft Computing,2017, 55:238-252

9. ZHU Yuelong, ZHU Xiaoxiao, WANG Jimin. Time series motif discovery algorithm based on subsequence full join and maximum clique. *Journal of Computer Applications*, 2019, 39(2): 414-420.
10. LI Xufeng, SONG Yafei, LI Xiaonan. Temporal evidence fusion method with consideration of time sequence preference of decision maker. *Journal of Computer Applications*, 2019, 39(6): 1626-1631.
11. SARABI-JAMAB A, ARAABI B. How to decide when the sources of evidence are unreliable: a multi-criteria discounting approach in the Dempster-Shafer theory[J]. *Information Sciences*, 2018, 448/449:233-248.
12. GE Lina, HU Yugu, ZHANG Guifen, CHEN Yuanyuan. Reverse hybrid access control scheme based on object attribute matching in cloud computing environment. *Journal of Computer Applications*, 2021, 41(6): 1604-1610.

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