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Design of Computer-Aided Assessment and Recognition Platform for College Students' Innovative Training Plan with Data Matrix Mining

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Abstract:In this paper, an improved association rule algorithm based on vector product is used. This algorithm only needs to scan the transaction database once and does not generate a large number of frequent item candidate sets. The algorithm first maps the set of data transactions into a matrix of vectors, each column vector representing an attribute. Matrix factorization algorithms usually decompose the original data matrix into two or more low-dimensional matrices. This paper analyzes the common problems existing in society, colleges, and families in labor education, and innovatively proposes a four-dimensional comprehensive evaluation index system for labor education in colleges and universities, including “subject-dominated colleges—family education support—social environment support—college students’ individual characteristics”.

Keywords: Computer-Aided Assessment, Recognition Platform, College Students' Labor Values, Data Matrix Mining

1. INTRODUCTION

The world outlook, outlook on life and values of college students will be gradually established at the university stage, and labor education that enables every student to understand the world and improve themselves from practice will be essential [1]. In March 2019, the Chinese Academy of Educational Sciences launched a "Report on Labor Education in Universities, Middle and Primary Schools [2]. On May 4, 2014, General Secretary Xi Jinping pointed out in his speech at the Peking University Teachers and Students Forum: "Why do I Talk about the core socialist values to young people? It is because the value orientation of the youth determines the value orientation of the entire society in the future, and the youth is in the period of the formation and establishment of values [3].

In 1969, the intelligence scientist Alan Pitchard suggested replacing "statistical bibliography" with "Bibliometrics" [4], and believed that bibliometrics was a discipline that applied mathematical and statistical methods to the study of books and other media [5], which marked the emerging discipline—the official birth of bibliometrics. Before reviewing the research status of multi-source heterogeneous data algorithms at home and abroad [6], this chapter first introduces the main object of multi-source heterogeneous learning research, that is, the types of multi-source heterogeneous data [7]. There is no unified definition of the types of multi-source heterogeneous data. The existing literature usually categorizes multi-source heterogeneous data as big data, or considers that multi-source heterogeneous data is a branch of big data [8].

Over the years, the data security system has been continuously developed and improved [9]. The literature pointed out that the data-driven system consists of three modules: data, software and hardware; the British SCSC (Safety.Critical.Systems.Club) organization constructed data in the data security guide [10]. Risk model. Under the new situation of the current rapid development of science and technology, great changes have taken place in the study situation [11], life style and employment form of college students. College students are easy to accept new things and new ideas, and they have strong Critical spirit and a sense of equality [12]. The rapid development of the information age makes the channels for college students to receive information become diverse and complex [13]. Higher vocational colleges are applied higher education and a concrete manifestation of the diversity of higher education development forms [14].

The training direction of higher vocational colleges is slightly different from that of higher education. Its main goal is to cultivate practical ability [15], and it has the characteristics of specialization, diversification and lifelong education. According to the requirements of post ability and professional quality training [16], we formulate teaching plans and set up courses, and the teaching process highlights practicality. Adopt a variety of applied teaching modes. initiative and effectiveness. This paper attempts to use modern psychology, statistics, behavioral science [17], education and human resources to consider from a combination of qualitative and quantitative perspectives, combined with computer science knowledge, to establish a scientific, reasonable and visualized college student that meets the needs of today's era [18].

The comprehensive quality evaluation system measures and evaluates the comprehensive quality of college students more comprehensively and objectively, and adapts to the scientific and standardized requirements of the society for the selection of talents [19]. The top-level design and comprehensive deployment of labor education in the new era are made, and new measures are proposed to build an education system that combines "morality, intelligence, physical beauty [20], and labor" and five education, requiring the whole party and the whole society to attach great importance to labor education. Shi Zhongying made a subdivided interpretation of the development field of "five education" [21], and pointed out that labor education refers to people's labor attitudes, opinions, skills and values.

The traditional evaluation of academic publications is mainly based on the frequency of citations. Su Xinning used the Chinese Social Sciences Citation Index (CSSCI) [22] to

analyze the academic influence of Chinese humanities and social sciences books [23], and gave the top five domestic academic books with the most academic influence in various disciplines of humanities and social sciences [24]. The acquisition of heterogeneous data has inspired many scholars to apply the matrix factorization algorithm to the scenario of multi-source heterogeneous data [25], and achieved good results. So far, some related literatures have been published one after another. On the basis of European ETCS, Germany's FhG_IVI (Fraunhofer Institute for Transport and Infrastructure) and Switzerland's ETH_IVT [16] (Swiss Institute for Transport Planning and System Theory) have studied unified railways since 2001 [26]. Application system data storage format, that is, RailML, RailML is a data standard format used in railway systems.

2. THE PROPOSED METHODOLOGY

2.1 The Data Matrix Mining Background

With the rapid development of the Internet and digitization, the way people read and evaluate books is also changing. E-commerce and its evaluation system provide new evaluation contents and indicators for book influence evaluation. Advances in digital storage and natural language processing technology provide technical support for book impact evaluation. At the same time, since V can also contain any non-negative real numbers, this kind of clustering algorithm can be called soft clustering. Data warehousing and OLAP are closely related. The data warehouse contains large-scale historical data, which is very necessary and useful for the business decision of a unit or an enterprise. Data is regularly imported from the operating system into the data warehouse. If the data source data imported into the data warehouse are different, the inconsistency between them needs to be solved.

Combined with the results of the above questionnaires on the importance of book influence evaluation indicators, this paper uses AHP to construct an indicator system with three levels: target layer, criterion layer, and program layer (indicator layer), including a total of 15 evaluation indicators, as shown in Figure 3 .4 shown. We take the initial weight of each indicator given by experts as the initial value of the importance of each indicator, and then compare the importance of different indicators pairwise. Conversely, views with more noise will be assigned smaller weights. Since the capped norm is used in the model to measure the reconstruction error in the objective function, this paper calls it multi-view clustering based on capped norm (CaMVC for short).

Therefore, the quality of labor education will be directly related to the overall development and growth of the vast number of young people in our country, related to the prosperity of my country's socialist cause, and has great practical significance for cultivating responsible and effective college students in the new era.

2.2 The Evaluation System of Labor Values of College Students

Educational evaluation is the baton of educational development and an important prerequisite for the healthy progress and scientific development of education in the period of comprehensive popularization. It is both an idea and a method, and has special significance in the new era. On May 4, 2013, General Secretary Xi Jinping agreed with The outstanding youth representatives from all walks of life pointed out in the discussion: "The great rejuvenation of the Chinese nation will become a reality in the relay struggle of the young people". This shows that the growth of young college students is closely related to the future of the country and the destiny of the nation, and they are the main force and fundamental force for future social construction. Whether in the daily management of student work, or before managers make relevant decisions, the comprehensive student evaluation system is queried by the school's management, teachers, counselors and student leaders (evaluation groups) with different permissions and roles. Statistics provide a basis for decision-making within a certain range.

The main functions of the comprehensive quality evaluation and analysis system of college students in higher vocational colleges are as follows: one is to manage the quality evaluation of college students; the second is to conduct an overall analysis of the quality evaluation of college students; the third is to manage the system itself. Also known as the principle of non-redundancy. While following the principle of comprehensiveness, the establishment of the indicator system should not blindly seek completeness and refinement, but should strive for simple and effective indicators. Indicators that have no significant impact on the evaluation objectives or are indistinguishable among the evaluated objects should be removed through screening. After the data model is established, certain verification testing methods need to be adopted to ensure the correctness of the data.

By analyzing the topology and consistency characteristics of the data model, the security constraints between the data are summarized. For the line data of the train control system to be tested, if the data meets the corresponding attribute conditions and strictly obeys the verification logic during verification. For college students with different qualities, clustering algorithms need to be used when establishing evaluation criteria and classification.

2.3 The Design of Computer-Aided Evaluation and Recognition Platform for College Students' Labor Values

With the rapid development of science and technology, my country's economic development and social life are changing with each passing day, and labor patterns, labor methods and labor methods have undergone brand-new development and changes. In view of the limitations and inefficiencies existing in the compilation of existing route data, this paper explores the application of graph theory to railway yards, and combines the matrix calculation of graphs with the railway route search process to study and improve the existing route. The data acquisition method verifies the correctness of the data in the route information table. As an important data source of the interlocking system, the entrance data needs to be effectively organized when handling the entrance. The comprehensive quality evaluation of college students has a very strict and standardized work standard and management process. Information is recorded in the file and can be reflected in the student information and data provided at any time.

This requires that the comprehensive quality evaluation system of college students also needs to meet the following functional requirements: At present, cluster analysis is the most commonly used technology in all analysis, not only because of its good discrimination ability, but also because of its high activity. Using the clustering algorithm, all data objects can be distinguished by the difference of attribute values, so as to realize the reasonable classification of all data. The principle of operability refers to the indicators of the evaluation system, which can be observed, measured or tested, and summarized the evaluators can reach a clear

conclusion or draw an index score that is in line with the actual situation. To implement comprehensive quality education for college students, on the one hand, there are many objects to be evaluated; on the other hand, the connotation and extension of "quality" is embodied in the whole process of college students' learning and development in school, which has the characteristics of comprehensiveness and complexity.

3. CONCLUSIONS

The results solve the problem of the lack of comprehensive evaluation indicators of labor education in my country's colleges and universities at present, enrich the methods and tools for evaluating the effect of labor education in colleges and universities, and can guide the evaluation of the current situation of the effect of college education in the perspective of college students' labor values cultivation. Development assistance. In particular, the reasonable application of online analysis mining, decision tree classification and prediction can comprehensively, fairly and objectively analyze and grasp a student's development status.

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5. REFERENCES

[1] Sheng Weixiang, Gong Wenjuan, Liu Jing. Design of a comprehensive evaluation system for college students' values based on big data [J]. Digital Communication World, 2021(9):2.

[2] Gao Zhanzhan, Yao Fuyi. Research on the evaluation system of labor education in colleges and universities from the perspective of labor values [J]. Continuing Education Research, 2021(7):6.

[3] Pan Min. Investigation and Research on the Labor Values of College Students in the New Era: Taking a University in Shandong as an Example [J]. Journal of Huainan Vocational and Technical College, 2020, 20(3):3.

[4] Hou Huanhuan. Research on the Cultivation Path of College Students' Labor Values in the New Era [J]. 2018.

[5] Zhai Chengyu, Yang Dan. Exploration on the identification and practice of the socialist core values of contemporary college students: Based on the perspective of the construction of the Communist Youth League in colleges and universities [J]. 2022(1).

[6] Zhai Chengyu, Yang Dan. Exploration on the identification and practice of the socialist core values of contemporary college students: From the perspective of the construction of the Communist Youth League in colleges and universities [J]. Journal of Zhangjiakou Vocational and Technical College, 2018, 31(1):3.

[7] Chen Xiaojun, Liang Lihua, Lian Haishan. "Computer-aided design" teaching reform practice based on curriculum ideology and politics [J]. Education and Teaching Forum, 2021(11):4.

[8] Hong Ni. A Study on the Identity of College Students' Socialist Core Values [J]. Students·Parents·Society: School Education, 2020(1):1.

[9] Yang Xin. Research on College Students' Identification of Socialist Core Values [J]. Fujian Tea, 2020, 42(3):2.

[10] Zhai Chengyu, Yang Dan. Exploration on the identification and practice of the socialist core values of contemporary college students: From the perspective of the construction of the Communist Youth League in colleges and universities [J]. Journal of Zhangjiakou Vocational and Technical College, 2018, 031(001):37-39.

[11] Wang Bo, Yuan Jianfeng, Luan Jiangfeng, et al. Exploration of the ideological and political implementation path of application-oriented undergraduate colleges and universities: Taking the "computer-aided three-dimensional design" course as an example [J]. Mechanical Design and Manufacturing Engineering, 2021, 50(12): 4.

[12] Zeng Yangyang, Li Dongdong. The remodeling path of college students' labor values in the new era from the perspective of Marx's labor thought [J]. Guangxi Education, 2022(3):4.

[13] Dai Rui. Research on the current situation and practice path of labor education in colleges and universities in the new era [J]. Popular Literature and Art: Academic Edition, 2022(1):3.

[14] Liang Weiying. Research on the Effectiveness of Labor Values Integrating into College Students' Innovation and Entrepreneurship Education [J]. Entertainment World, 2021(2):3.

[15] Ai Ling, Deng Liwei. Ideological and Political Exploration and Practice of "Computer Aided Design of Electrical System" Course [J]. Education in Heilongjiang: Higher Education Research and Evaluation, 2021.

[16] Wang Tao, Xia Bin. Effective integration of ideological and political elements in computer-aided design courses for environmental design majors [J]. Women's Square, 2021(18):1.

[17] Liang Yiyun. Countermeasures to improve the emotional identity of college students' socialist core values [J]. Journal of Kaifeng Vocational College of Culture and Art, 2021.

[18] Huangfu Xianchang, Jiang Shuyun. Research on the reshaping of college students' labor values in the new era [J]. Theoretical Research and Practice of Innovation and Entrepreneurship, 2021(5):3.

[19] Yu Jingjing, Xu Sheng. On the Cultivation of College Students' Labor Values under the Background of Lide and Tree People [J]. Education Modernization, 2019.

[20] Xie Xiaomeng. The identification and path design of socialist core values for college teachers [J]. Journal of Jilin Engineering and Technology Teachers College, 2020.

[21] Hou Huanhuan. Research on the Cultivation Path of College Students' Labor Values in the New Era [J]. Contemporary Tourism, 2018, 000(019):37,42.

[22] Shao Jieyu. Research on the cultivation of core values of college students under the background of "Internet +" [J]. Journal of Harbin Vocational and Technical College, 2020(6):3.

[23] Xue Qunbin. A Study on the Identity of College Students' Socialist Core Values Based on the Internet Perspective [J]. Journal of Jiamusi Institute of Education, 2018, 000(010):176,178.

[24] Wei Xiaobo. The identification path of college students' socialist core values from the perspective of self-media [J]. Overseas Digest Academic, 2018(16):3.

[25] Ma Li, Fu Ziyu. Research on the comprehensive quality evaluation system of college students from the perspective of socialist core values [J]. Youth and Society, 2018, No.721(30):53-54.

[26] Xue Qunbin. A Study on the Identity of College Students' Socialist Core Values Based on the Internet Perspective [J]. Journal of Jiamusi Vocational College, 2018(10):2.