

# AHP Evaluation Software for Intelligent Reform of Computer Majors in Colleges Based on Interactive Intelligent Testing Algorithm

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**Abstract:** Mathematics and other cross-composition, its content is very abstract, theoretically strong, students have great difficulty in the learning process. In the new era, in order to further improve the teaching quality of data structure courses for computer majors in colleges and universities, when generating test cases, the one-test-at-a-time strategy is used to generate test cases that cover more total gains through sequential optimization ant colony algorithm. The pheromone update adopts a phased approach. The AHP method is used to evaluate the importance of each influencing factor, and then according to the weight of each influencing factor, the curriculum setting of computer majors in higher vocational colleges is modularized and refined, and a computer curriculum setting plan suitable for the characteristics of higher vocational colleges is formulated accordingly.

**Keywords:** AHP Evaluation Software, Intelligent Reform, Computer Majors, Interactive Intelligent Testing

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## 1. INTRODUCTION

"Data structure" is an important professional basic course in the computer professional course. The algorithm design and implementation of storage structure, logic structure and core operation are the main content of this course [1], and it is the basic theory and technology of computer program design. Although there are many projects management software at home and abroad with relatively strong functions, it is far from enough in network planning optimization and resource allocation [2]. The main reason for this situation is that the current theory of network planning optimization and resource allocation lags behind the actual demand [3].

There are three innovation points in this paper, including two theoretical innovations. Enterprises are the main body of innovation [4]. The key to implementing the innovation-driven development strategy is to stimulate the vitality of enterprises. However, at present, all circles of society have relatively limited cognition on the definition of enterprise innovation ability, and the original innovation ability evaluation system is not fully functional [5]. Therefore, many computer majors in higher vocational colleges are conducting courses to evaluate innovative enterprises based on the theory of intelligent specialization. When set up, it is often cobbled together with popular courses.

Such a curriculum lacks not only a systematic grasp of training objectives, a systematic analysis of majors, but also an analysis of the talent market [6], which will inevitably lead to dissatisfaction among students. However, the truly mature application of voice interaction technology still needs to overcome many difficulties, especially on speech recognition. For example, there is usually a huge difference between the practical and training environments, resulting in a low speech recognition rate in the actual use process. Software testing is an important means of detecting software defects and an important link in the software life cycle. If all the data are used as software testing samples, although theoretically more comprehensive testing requirements are met [7], the Analytic Hierarchy Process (AHP, Analytic Hierarchy Process) is a

well-known American operations researcher T. L. A multi-criteria decision-making method combining qualitative and quantitative analysis proposed by Sashay et al. is also one of the widely used evaluation methods in modern times [8].

The basic principle of network planning technology is to use network diagrams to express the schedule of projects (for example: national defense and construction projects, product production of enterprises, equipment maintenance, etc. [9]), calculating the relevant time parameters of each process. The learning effect of the "Data Structure" course has a great impact on the learning of subsequent professional courses. At the same time, it is also related to the improvement of software design level and professional quality talents. cultivation, etc. [10] Look at an algorithm innovation according to the current learning situation; the two theoretical innovations are the innovation of the group section method and the innovation of resource balance in the network planning optimization, and an algorithm innovation is the efficient use of the cross-linked list in the network graph [11].

Two theoretical innovations are discussed below, and an algorithmic innovation is discussed in Section III. Further improve the innovation evaluation theory; Jinn Dawei and Chen Chunming (2006) believe that innovative enterprises should usually have their own innovation culture and policies [12], put R&D first and maintain sensitivity to R&D and technology, and constantly strengthen the quality of R&D input and output, actively promote the transformation of research and development results [13]. The teaching content formulated by some higher vocational colleges is mainly based on the basic theory of computer, and the courses are divided into software direction and hardware direction according to different directions. Taking the software direction as an example, it is mainly based on various languages and application software. The software direction is usually divided into three parts: programming, application software and network technology. This leads to a large speech recognition error [14]. Therefore, how to use a suitable speech interaction algorithm to accurately recognize human language

in the actual environment is the key to improving the speech recognition rate [15].

Studies have found that many program errors are caused by the interaction of a few parameters. The combination test has a high error detection rate. The literature [16] found that 70% of the errors can be found through the combination of pairs. In today's rapid development of information technology, the realization of the evaluation cannot be separated from the participation of the computer. The development of general-purpose evaluation software for AHP will save a lot of complicated and tedious calculation and processing links in evaluation work and bring great help to evaluation decision-makers [17].

## 2. THE PROPOSED METHODOLOGY

### 2.1 The Interactive Intelligence Testing

#### Algorithms

It is difficult to accurately estimate the maneuvering time and cost rate of the process and when using the group cross-section method to find the decision-making scheme, the degree of influence of the compression of each process on the quality and safety is not distinguished, and only the maneuvering time and cost of the process in each decision-making plan are considered. The voice input of the fee rate mainly collects the original voice signal through the microphone, extracts the characteristics of the voice through the voice signal processing, and then uses the acoustics and language models for further modeling processing, probability calculation and result output. Instead, test critical test cases first until limited resources are exhausted.

Critical test cases have higher overall gain, so during initial testing, researchers focus more on increasing overall gain. For network diagrams, the platform software does not provide a representation for it. This means that you have to do it yourself to represent the network graph. By consulting a large amount of data and carefully studying the network diagram, the author of this doctoral thesis found that the cross-linked list is the best way to represent the network diagram. When the group cross-section method seeks the decision-making scheme, only the maneuver time of the process in each decision-making scheme is considered. There is no separate consideration for the resources required for the construction of the project and the cost rate, so it is impossible to give priority to compressing the construction period of key processes with sufficient resource

### 2.2 The Intelligent Reform of Computer Major in Colleges and Universities

The previous research on intelligence specialization was based on qualitative analysis. It only analyzed the theoretical logic and the meaning behind it and lacked the necessary quantitative analysis as a support to provide visual evidence for enterprise development. It is not directly convincing. Text analysis has a certain degree of subjectivity. To sum up, higher vocational colleges should fully reflect four characteristics in curriculum setting: basic, practical, feasible and developmental. And the measurement factors of basic, practical, feasible and developmental can be refined.

It has typical dynamic programming characteristics and can search and analyze the optimal state sequence of the observation sequence (length is T). Find. The intelligent interactive mode is an optimization method proposed to analyze the main and sub-critical routes of the network according to the current situation after the implementation of

the current network plan and the proposed target construction period. This method can simultaneously display the main and sub-critical routes through the user interface route. The process of selecting compression should be located on the main key route. Make a pairwise comparison of the importance of each element at the same level with respect to a criterion in the previous level and construct a pairwise comparison judgment matrix. The meaning of the scale of the judgment matrix is as follows: when two elements have the same importance, the scale is 1; compared with two elements, the former is slightly more important than the latter, and the scale is 3.

The characteristics of the "data structure" course are that the course content is large, and the description of data types is complex. Some complex topics have more codes, which will give students a headache when they see it. Therefore, according to the specific characteristics of students, teachers should make appropriate adjustments to the teaching content, including linear tables, queues, stacks, graphs, trees, and recursion. Due to the real-time nature, information can be presented quickly, so that enterprises can understand and update information at any time. Only when enterprises have timely and accurate information can they grasp the needs, concepts and trends of customers or consumers. The combination of real-time, interactivity and cross-domain enables enterprises and customers to communicate in a timely and sufficient manner in transactions, eliminating the cost waste caused by unnecessary errors in transactions

### 2.3 The AHP Evaluation Software for Intelligent Reform of Computer Specialty

Let students learn to analyze and study computer processing objects, that is, data characteristics, which is the main goal of the "Data Structure" course. The realization of this goal is convenient to select the corresponding storage structure, logical structure and algorithm through the designed computer data. If the network used is relatively simple, and the number of resources to be balanced is small, then the graphical method and the formula judgment method can be used. in use. Because even if the resource calendar is determined, it is easier to modify it.

There are many ways to convert "network tree" to "standard tree". You can re-analyze and define indicators with multiple parent nodes or combine indicators or separate unique subordinate new indicators from cross indicators; you can also Dependent parent indicators are re-analyzed and defined, or new indicators are merged or separated. The cross-linked list is one of the most complex data structures today and its application fields are also very wide, such as network diagrams in project management, control diagrams in power grids, processing of graphics and images, and control in transportation. Figure etc. In order to understand the meaning of the objects described by the cross-linked list, this doctoral dissertation takes the network diagram in project management as an example to introduce the network diagram.

## 3. CONCLUSIONS

In computer majors in colleges and universities, the data structure course plays a very important role, which will have a direct impact on the students' program development ability. Although the data structure course is difficult to learn, it can still be learned well after a series of adjustments and reforms. In this course, the computer professional courses of higher vocational colleges are designed into the following modules: professional basic courses, professional core courses, professional designated elective courses, cultural quality

elective courses, professional practice, cognition practice and graduation design. These modules are embodied as: software process module, software design module, Linux and system software module, information system engineering module.

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