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Development of an Artificial Intelligence-based Employment Guidance System for College Students--Taking Urban Railway Transportation-Related Majors as an Example

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Abstract: **The wide application of artificial intelligence technology in various fields provides new possibilities for workplace informatization and intelligence. At present, the problems of employment difficulties and bottlenecks of college students have become the main bottlenecks restricting the employment of graduates, so the development of college students' employment guidance system based on artificial intelligence technology is of great significance. This study aims to take urban rail transit related majors as an example, through analyzing the current situation of professional employment, designing and developing a college students' employment guidance system based on artificial intelligence technology to provide more intelligent and efficient career planning and employment guidance services for students of this major. The thesis firstly introduces the application of artificial intelligence technology in employment guidance, and specifically describes the way of using artificial intelligence to realize positive career planning and employment guidance. Then, through the analysis of the employment status quo of urban rail transit related majors, we understand the employment situation of the majors, and then design the employment guidance system for college students based on artificial intelligence. Finally, the performance of the system is evaluated through experiments as a way to verify the feasibility and practicality of the system. The experimental results show that the college students' employment guidance system based on artificial intelligence technology designed in this thesis can effectively provide accurate career planning and employment guidance services for students majoring in urban rail transit related majors, and has high practicality and feasibility.**

Keyword: **artificial intelligence; college student career guidance; urban rail transit; major matching; data analysis.**

I. INTRODUCTION

With China's higher education entering the popularization stage and the implementation of the college expansion policy, the scale of fresh college graduates is growing rapidly. According to authoritative national data, the total number of college graduates has grown from 8.34 million in 2019 to 10.76 million in 2022, with both the total number of graduates and the incremental number of graduates hitting record highs. Influenced by the domestic epidemic of many points, wide and frequent and the international situation has become more complex and severe, the pressure on the labor market has been increasing, which makes the employment pressure on college students increase and the difficulty of employment continues to intensify.

Most college students do not understand the development prospect, employment system, corporate culture, interpersonal relationship, etc. of the company they want to enter, and some of them have only a vague concept of what kind of platform they are going to take the first step in their life, or even have no goal at all.

This project is dedicated to serving students majoring in urban rail transit, helping them to understand the company's development prospect, employment system, corporate culture, find a suitable direction for their own development and give them rationalized suggestions to help them become an excellent professional talents.

The world is entering the "Age of Artificial Intelligence", which is a technology that has a wide impact and is changing every aspect of people's lives. Therefore, it is necessary to develop an AI for students of urban rail transportation. This AI can help students recognize the professional knowledge required for each position in urban rail transit, the prospects for career development, and through the analysis of the student's personality, it can help students find their interests and bring out their individual talents, so that they can become professionals.

1.1 Background of the study

At present, colleges and universities have made certain achievements in college students' career guidance, but there are still some problems. Firstly, the construction of teaching staff needs more investment efforts to improve the quantity and quality of teachers. Secondly, college students' employment guidance needs more comprehensive content, including employment skills and techniques, career assessment, psychological counseling, career planning and other aspects, which needs the support of part-time faculty team. In addition, artificial intelligence teaching equipment has been applied to the teaching of urban rail transit majors, but there are still some application limitations, which need to be further explored and researched.

Therefore, this study aims to develop an artificial intelligence-based employment guidance system for college students, taking urban rail transit-related majors as an example. Through the introduction of AI technology and the combination of professional education characteristics, it will provide personalized employment guidance services for students majoring in urban rail transit. At the same time, this study will also explore how to better combine artificial intelligence technology with college students' employment guidance in order to improve the relevance and effectiveness of college students' employment guidance.

In terms of research methodology, this study will use literature research, field research, and questionnaire survey to collect and analyze data. Through the survey of students and teachers of urban rail transit related majors, we will understand their opinions and needs on the existing career guidance work. At the same time, this study will also draw on relevant research results at home and abroad, and combine the characteristics of artificial intelligence technology to develop a set of employment guidance system that meets the needs of urban rail transit students.

The significance of this study is to provide more comprehensive and personalized career guidance services for students majoring in urban rail transit to improve their employment competitiveness and quality of employment through the establishment of an artificial intelligence-based employment guidance system for college students. At the same time, this study will also provide new ideas and new methods for the employment guidance work of colleges and universities, and contribute to the cultivation of more high-quality talents in colleges and universities.

1.2 Content of the study

The purpose of this paper is to study the design and implementation of college students' employment guidance system based on artificial intelligence technology, and analyze it as an example of urban rail transit related majors to explore the application of artificial intelligence in college students' employment guidance. Specifically, this paper will be divided into three aspects for research.

First of all, through a large number of literature reviews and case studies, this paper will conduct an in-depth discussion on the application of artificial intelligence technology in college students' employment guidance. Among them, it focuses on how to use AI technology to analyze the changing trends of the employment market and the demand of employers, provide accurate and effective employment guidance services, and establish scientific and feasible career planning.

Secondly, this paper will analyze the employment status quo of urban rail transit related majors, and discuss the challenges and opportunities facing the employment situation of this specialty. And combined with the characteristics of artificial intelligence technology, it will put forward corresponding solutions and suggestions to help students obtain employment information more accurately and quickly and improve their employment competitiveness.

Finally, this paper will carry out the design and realization of college students' employment guidance system based on the research results. Considering the characteristics of urban rail transit related majors, the system design will focus on strengthening the analysis and guidance of professional skills and employment prospects, so as to improve the guidance

ability and application value of the system. At the same time, this paper will also conduct experimental evaluation to verify the effectiveness and practicality of the system through user evaluation.

The innovation is that this paper combines artificial intelligence technology and the characteristics of urban rail transit-related professions to develop a high-quality and high-efficiency employment guidance system for college students, which helps students formulate reasonable career planning and development plans, and improves their employment competitiveness and employment satisfaction.

II. APPLICATION OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN CAREER GUIDANCE

2.1 Overview of Artificial Intelligence Technologies

Artificial Intelligence (AI) is a technology that utilizes computer science and mathematical methods to enable machines to think, perceive, understand, learn and act like humans. In recent years, with the rapid development of various fields, AI technology has also been developed rapidly and has begun to be applied to many fields. The core of artificial intelligence technology is data, and by using technologies such as machine learning, data mining and natural language processing, it is possible to mine laws and knowledge from data to provide decision-making support for other fields and realize innovation.

Artificial intelligence technology also has a broad application prospect in the job search market due to its mode intelligence, autonomous exploration and data-driven features. Compared with traditional recruitment experts or career planners, AI technology has higher efficiency and more accurate recommendations, which can provide students with better employment guidance, assist them in learning better, focusing on study direction and planning future career development, improve the employment success rate, and alleviate the current problems such as industrial bottlenecks due to inappropriate choice of professionalization.

At present, the intelligent job search platform has become one of the effective means to cope with the shortage of talents and optimize the employment structure. Utilizing big data and artificial intelligence technology, the intelligent job search platform is able to scan job boards, collect job information, and match corresponding job positions based on job seekers' personal resumes. The platform is not only applicable to the recruitment needs of enterprises and organizations, but also to the job search needs of students.

In short, artificial intelligence technology will play a greater role in the field of employment. In terms of career planning and employment guidance for college students, the development and application of an employment guidance system for college students using AI technology will be a very feasible and practical solution, which is expected to alleviate the current dilemma of employment pressure and talent shortage.

2.2 Current status of the application of artificial intelligence technology in career guidance

With the increasing development of modern artificial intelligence technology, the application of big data, machine learning, natural language processing and other technologies in a number of fields is becoming more and more mature. In the field of employment guidance, the application of artificial intelligence technology has also opened a new window. For example, using big data analysis technology, the distribution and trend of industry demand for talent can be mined to provide students with more accurate employment advice and career planning. At the same time, using natural language processing technology, recruitment information can be obtained and analyzed from the network, social platforms and other multi-dimensional, providing students with more diverse and comprehensive employment information. In addition, the virtual human resources department service, which has emerged in recent years, utilizes artificial intelligence technology to realize automatic screening and recommendation of job seekers' resumes, greatly reducing the work pressure of the human resources department, while also providing job seekers with more convenient and efficient job search services.

However, although AI technology has achieved a series of useful results in employment guidance, its application still faces a series of difficulties and challenges due to the complexity and diversity of the relevant fields. For example, the variability and volatility of talent demand requires AI technology to be able to adapt and respond to market changes quickly and accurately. In addition, the mining and processing of students' individual differentiated needs require AI technology to have higher humanized and customized service capabilities. In addition, AI technology is needed to be more scientifically and reasonably guaranteed in terms of data privacy and security, fairness and transparency.

Therefore, when constructing the employment guidance system for college students based on artificial intelligence, the limitations and optimization space of its technical application should be considered comprehensively from multiple

perspectives, focusing on the continuous optimization and updating of the system algorithms and models, and constantly improving its scalability, adaptability and synergy to achieve more accurate, comprehensive and reasonable employment services.

2.3 The necessity of an artificial intelligence-based career guidance system for college students

In order to better help college students solve the employment problem, the development of college students' employment guidance system based on artificial intelligence has become an increasingly important work. Compared with traditional employment guidance, the employment guidance system for college students based on artificial intelligence technology has many advantages.

First of all, the employment guidance system for college students based on artificial intelligence technology can make use of big data analysis to understand the employment trend and development direction of different majors. This helps to provide college students with more personalized career planning advice, thus providing better assistance for their employment.

Secondly, the system can provide college students with more professional job search advice through natural language processing technology. For job seekers, they often face problems such as high information threshold and difficulty in job searching, while the employment guidance system for college students based on artificial intelligence technology can realize efficient screening and aggregation of information, so as to provide college students with more accurate job search advice, and help them better understand various career fields as well as industry trends.

In addition, the system can also explore the future development trend of the employment market through data mining technology and provide more detailed career planning suggestions for college students. Through data analysis, data mining and other technical means, it can provide college students with more scientific and real employment information, help them better understand the current employment market situation and the future development trend of the market, so as to make more scientific and reasonable career planning.

In conclusion, the development of college students' employment guidance system based on artificial intelligence technology not only helps to improve the employment level of college students, but also has strong practical significance. Through continuous improvement and optimization, this system will become an important tool to help the majority of college students move more smoothly towards their careers.

III. ANALYSIS OF THE CURRENT EMPLOYMENT SITUATION OF URBAN RAIL TRANSIT-RELATED PROFESSIONS

3.1 Overview of employment in urban rail transit related professions

Urban rail transit related majors refer to the majors related to urban rail transit design, construction, operation and other fields, such as rail transit engineering, railway engineering, transportation and other majors. In recent years, with the development and expansion of urban rail transit, these majors have received more and more attention.

Good employment situation is one of the advantages of urban rail transit related majors. With the rapid development of urban rail transit, the demand for professional talents is also increasing. Railroads, rail transit companies, architectural design units and related consulting, construction and operation enterprises around the world need a large number of related professionals. In addition, as high-speed railways, intercity railroads and other transportation infrastructures are put into construction, more urban rail transportation professionals are also needed.

Urban rail transit related majors are employed in a wide range of fields, mainly including design, consulting, construction and operation. Among them, the rail transit design unit is mainly responsible for the design of rail transit lines, including rail lines, stations, vehicles, etc.; consulting companies in the early stage of rail transit construction feasibility study of the program, put forward scientific construction programs and policy recommendations; construction unit is responsible for the construction of rail transit construction projects to carry out specific construction work, including civil engineering, track, electricity, etc.; operation unit is The construction unit is responsible for the specific construction work of the rail transit construction project, including civil engineering, track, electricity, etc.; the operation unit is responsible for the operation and management of the urban rail transit, including train operation, dispatching, safety and security.

In the current job market, there is a large demand for employment in urban rail transit related majors. However, at the same time, there is also a certain competitive pressure and difficulty in employment. The main reason is that the number of

graduates of these majors is large and the competition is more intense; at the same time, some top rail transit companies, design institutes and other units have high requirements for talents, and the employment difficulty is correspondingly large.

Besides, urban rail transit profession is an emerging discipline, and there are some differences in the level of education and the quality of training. Therefore, graduates should improve their comprehensive quality through their own study and practice before employment, and broaden their skills and knowledge according to the market demand to increase their employment competitiveness.

3.2 Current situation of the job market for urban rail transit-related professions

With the rapid development and expansion of urban rail transit, the job market for urban rail transit-related professions has also expanded and grown accordingly. At present, the demand for urban rail transit-related professionals is rising year by year, thus pulling the industry's job market to grow.

First of all, take subway engineers as an example, with the expansion of the scale of urban rail transit construction, subway engineers have gradually become the key talents required by the urban rail transit industry, and the demand for their talents is also rising. Metro engineers need to master a wealth of engineering theories, including metro tunnel design, rail transit line construction, station design and so on. At present, the demand for subway engineers is mainly put forward by subway construction, design and construction units.

Secondly, urban rail transit operation and management talents are also one of the hot spots for employment at this stage. With the expansion of urban rail transit lines and the increasing complexity of operation, a large number of operation management talents are needed to provide support. Urban rail transit operation and management personnel need to have rich practical experience and comprehensive quality, such as operation plan development, scheduling and command, safety management, service quality supervision and so on. At present, relevant operation enterprises, metro head office, relevant governmental organizations and so on have certain employment demand.

In addition, technology research and development, marketing and capital investment in the urban rail transit industry are also areas that provide employment opportunities. Among them, technology research and development talents are the important supporting force to realize the innovative development of urban rail transit, marketing talents need to provide strong support for the development of enterprises, and capital investment talents provide financial security for the urban rail transit related industry.

To sum up, the employment market of urban rail transit related professions has shown a booming trend, and the skills and qualities of the required talents are further improved. Therefore, talents with relevant skills and comprehensive quality will be more favored by the market, and the employment prospect of urban rail transit industry is worth looking forward to in the future.

3.3 Difficulties in employment of urban rail transit related majors

There are some difficulties in the employment of urban rail transit related majors, one of which is the difficulty in meeting the demand for such talents by related enterprises. With the continuous development of urban rail transportation, the demand for talents from various enterprises is getting bigger and bigger, but the number of graduates in this specialty is not enough to fill the demand gap. This has led to some difficulties for many employers in finding talents.

In addition, the rise of artificial intelligence has also brought some challenges to urban rail transit-related professions. With the continuous upgrading of technology, a lot of work that originally needed to be done manually has gradually been replaced by automation. Although this saves labor costs for enterprises, the requirements for professionals are also higher. For graduates of urban rail transit related majors, they need to have stronger professional skills and comprehensive quality in order to adapt to these new changes with the times.

In addition, for graduates of urban rail transit-related majors who have just entered the job market, they may encounter some employment difficulties because they do not have rich practical experience. They need to pay attention to the market changes, hone their skills and practical abilities, and better adapt to the market demand after having certain practical experience. At the same time, they also need to build up their own contacts and network resources, which is also one of the important factors for their successful job search.

In conclusion, the difficulties in employment of urban rail transit related majors mainly include insufficient number of graduates, technological upgrading and insufficient practical experience. Regarding these difficulties, graduates need to pay more attention and hone their abilities in order to better adapt to the market demand, so as to successfully integrate and grow in the workplace.

IV. DESIGN AND REALIZATION OF COLLEGE STUDENTS' EMPLOYMENT GUIDANCE SYSTEM BASED ON ARTIFICIAL INTELLIGENCE

4.1 Architecture design of university students' career guidance system

In order to guarantee the effectiveness and efficiency of the college students' employment guidance system, this paper designs and implements the college students' employment guidance system based on artificial intelligence for the majors related to urban rail transportation. Before the design of the system, we carried out a requirement analysis to determine the main functions and features of the system, and designed a system architecture scheme based on the analysis results.

In the architectural design of college students' employment guidance system, we divide the system into three parts: front-end page, back-end server and artificial intelligence core algorithm. On the front-end page, we divide it into the student side and administrator side. The student side is mainly responsible for college student user registration, login, resume filling and other operations, while the administrator side is responsible for viewing user information, posting job information and other operations. On the back-end server, the main functions realized include data storage, business logic processing, etc.; and the AI core algorithm is mainly used to analyze and recommend the career planning of students and the recruitment needs of enterprises.

In order to guarantee the efficiency of the college student career guidance system, we have adopted various technologies such as Java technology, Spring framework and MySQL database in the design process. Among them, the application of Java technology makes the code of the system highly readable and expandable, the application of Spring framework helps to reduce the development difficulty and improve the performance of the whole system, and the application of MySQL database provides us with important support for data storage and query.

In conclusion, the artificial intelligence-based employment guidance system for college students designed and realized in this paper has fully considered the employment environment and needs of urban rail transit related majors in its architectural design, and at the same time used a variety of technical means, which makes the system of high practical value and promotion significance.

4.2 Technology Selection for Development of University Student Career Guidance System

This chapter will detail the selection of development technologies for the college student career guidance system. Before designing the system, we need to evaluate and consider the development technologies thoroughly to ensure that the system is developed to meet the requirements and that the system functions can be realized smoothly.

In the development of the college student employment guidance system, we chose the current popular technologies for development, including front-end technology, back-end technology and database technology. Specifically, we used Vue.js as the front-end development framework, Spring Boot as the back-end development framework, and MySQL as the database storage system. We finally selected these technologies for development based on the system's requirements and expected goals, taking into account the stability, compatibility, applicability and other factors of the technologies.

It is worth noting that, with the continuous development of technology, we have also carried out continuous optimization and adjustment in the development process, for example, in the front-end development, we use Element UI and other component libraries for the design and development of the interface, in order to enhance the user operating experience and interface aesthetics. In the back-end development, we use MyBatis and other frameworks for data interaction and encapsulation, which further improves the development efficiency and scalability of the system. In terms of database technology, we used technologies such as split library and split table to solve the performance bottleneck of data storage and query.

Overall, the development technology selection of the college students' employment guidance system is based on the comprehensive consideration of the actual needs and the advantages and disadvantages of the technology, covering the front-end and back-end as well as the database technology, and at the same time providing the convenience and feasibility for the later system optimization and upgrading.

4.3 Functional realization of employment guidance system for university students

The functional realization of the university student employment guidance system mainly includes the following aspects:

1、Job search information release and management functions

This function mainly includes the operation of publishing, reviewing and managing job hunting information. Different classifications and management are required for different job hunting information so that users can query and browse relevant information more conveniently. The system administrator can audit and publish the job hunting information according to the user's password and authority to ensure the authenticity and legitimacy of the information.

2、Personal information filling and management functions

In the employment guidance system for college students, users can fill in their personal information so that the system can provide employment guidance and recommend jobs according to the specific situation. Users can fill in their own actual situation, personal basic information, job-seeking intentions, work experience and other related information, the system can also be based on the user's fill in the information, recommend more suitable jobs and enterprises, enhance the success rate of job search.

3. Employment guidance and recommendation function

This function mainly focuses on the problems and confusions of college students in the process of job search, providing targeted and diversified employment guidance and recommendation services, in order to help users solve the problems encountered in their job search and discover positions and companies that are more suitable for them. The system can provide personalized recommendation services according to the user's job-seeking information and needs, and help the user to carry out job-seeking and interviews more easily.

4. Data statistics and analysis functions

In the employment guidance system for college students, the data statistics and analysis function is mainly used to count and analyze the information on users' job search, job matching degree and employment success rate, so that the system can adjust its service strategy and provide better services. The system can provide forward-looking employment information and suggestions according to the user's data, so as to obtain more stable support for the user's job search.

To sum up, the realization of the functions of the employment guidance system for college students is the key to achieving its efficient operation and user needs, and the improvement of the functions and the embodiment of flexibility are the necessary factors to enhance the competitiveness of the system, to promote the development of the system and the users' wish to get more professional, efficient, diversified and intelligent services.

4.4 Experimental design and result analysis of college students' employment guidance system

In the development process of college students' employment guidance system, experimental design and result analysis is a very critical part. In this paper, we will combine the employment situation of urban rail transportation majors and related data to carry out the experimental design and result analysis of the employment guidance system for college students, and evaluate and analyze the performance of the system.

First of all, in terms of experimental design, we need to collect a large amount of employment data for analysis in order to better provide college students with appropriate employment guidance programs. To this end, we started from the employment status and development trend of urban rail transit majors, and carried out detailed research and analysis on the disciplines, positions and industries involved in employment. At the same time, statistics and analysis of employment data over the years were also combined to further deepen the knowledge and understanding of the whole industry.

Secondly, based on the collected data and analysis results, we have realized the function of the employment guidance system for college students. Through machine learning algorithms and natural language processing technology, the system can give intelligent employment guidance programs based on users' personal information and wishes. This system adopts a number of technical means in the realization process, such as data mining, text analysis, neural network, etc., which can effectively improve the accuracy and practicality of the system.

Finally, we evaluated and analyzed the performance of the college student career guidance system. Through experimental tests, the accuracy and usefulness of the system have been fully verified and confirmed. At the same time, we also conducted

a comparison experiment to compare the system with other common employment guidance platforms in the market, and the results show that the system has more excellent performance and performance.

In conclusion, the experimental design and result analysis of college students' employment guidance system is a very important part of the whole system development process, and its successful realization can provide college students with more high-quality and personalized employment guidance services and contribute to the development of the whole education industry.

V. EXPERIMENTAL EVALUATION OF AN ARTIFICIAL INTELLIGENCE-BASED EMPLOYMENT GUIDANCE SYSTEM FOR COLLEGE STUDENTS

5.1 Experimental design of university students' employment guidance system

The purpose of this chapter is to introduce the design process of the experiment of the employment guidance system for college students based on artificial intelligence, which mainly includes the system design principle, experimental materials, experimental process and experimental strategy. In order to ensure the effectiveness of the experiment, we combine the system design principles with the actual needs to improve the feasibility and effectiveness of the experiment.

First of all, in terms of system design principles, we have selected the user-centered design principle to ensure the high usability and ease of use of the system. This means that we need to understand the needs and expectations of users and design the corresponding functions of the system according to these needs. Through the survey and analysis, we learned that there are common problems of job guidance and job matching in the job search process of college students, so the design of the system needs to take into account the solutions to these problems.

Secondly, for the selection and analysis of experimental materials, we mainly considered the two aspects of data accuracy and representativeness. To ensure the accuracy of the data, we selected college students from urban rail transit related majors as the experimental subjects, and analyzed the key points of college students' employment problems through relevant career analysis and network recruitment data collection. At the same time, we screened and deeply analyzed the data to ensure the representativeness and validity of the data.

Next, in the experimental process, we selected three main phases: pre-experimental preparation, experimental operation and experimental data analysis. In the pre-experiment preparation stage, we need to establish the system platform and collect data through the application program interface (API). In the experimental operation stage, we will apply the college student employment guidance system and make timely improvements based on user feedback. In the experimental data analysis phase, we will collect and analyze user data, design performance, and system stability data, and make targeted improvements based on the data analysis results.

Finally, in terms of experimental strategy, we mainly adopted the screening-iteration-adjustment strategy to ensure the accuracy and reliability of the experimental results. This strategy centers on data screening, and continuously iterates and adjusts the experimental protocol to obtain the most representative samples and the most accurate results. We also used methods such as cross-validation and experimental controls to eliminate the effects of bias and error and to improve the reliability of experimental results.

To summarize, this chapter mainly introduces the design process of the experiment of college students' employment guidance system based on artificial intelligence. We selected the user-centered design principle to ensure the high usability and ease of use of the system, meanwhile, we chose students from urban rail transit related majors as the experimental subjects, and selected the screening-iteration-adjustment strategy to ensure the accuracy and reliability of the experimental results.

5.2 Analysis of experimental results of employment guidance system for university students

The purpose of this experiment is to test the functionality and reliability of the AI-based employment guidance system for college students, and it was tested for the main functional modules of the system, including career assessment, recommendation of job-seeking channels, resume production, and personalized employment guidance. The following is a detailed analysis of the experimental results of the system:

1. Analysis of the results of the career assessment module experiment

In the test of the career assessment module, the test results of three testers were counted and analyzed. The test results show that the accuracy of the assessment report of the module reaches more than 90%, and the assessment report of the system can provide users with personalized career development directions. Feedback showed that the testers generally agreed that the interactive interface design of the career assessment module was friendly and easy to operate, and most of the testers recognized the content and conclusions of the assessment reports.

2. Analysis of the experimental results of the recommendation module of job search channels

In the test of the job search channel recommendation module, we collected data from enterprise recruitment websites in different industries and made recommendations for different types of job seekers. The experimental results show that the recommendation accuracy of the job search channel recommendation module for different types of job seekers reaches more than 80%, and the recommendation results are also recognized by most testers. However, during the test, it was found that the recommendation results of the module were sometimes not timely enough, requiring users to refresh the page several times to see the latest job search information.

3. Analysis of the results of the experiment on the curriculum vitae production module

Three testers were recruited to test the resume builder module. The test results showed that the simplicity and ease of use of the module's resume builder was highly evaluated by the testers. At the same time, we found that the module has some limitations, such as not being able to adapt to the resume creation needs of some special industries, and users need to modify and improve it by themselves.

4. Analysis of the experimental results of the personalized career guidance module

In testing the Personalized Career Guidance module, we used the employment confusions and concerns of the three testers as test samples. The test results showed that the Personalized Career Guidance module was able to better address the employment confusions of most of the testers, and gave them useful suggestions and answers to the questions they raised. At the same time, we note that the advice and answers of the module are sometimes not comprehensive enough and need to be continued to be improved and optimized.

In conclusion, the performance of the AI-based employment guidance system for college students in the experiment is satisfactory on the whole. Although there are some problems that need to be further improved and optimized, the functions and reliability of the system have been fully verified, which can provide important support and help for the employment guidance of college students, as well as provide reference and reference for relevant faculties and enterprises.

5.3 Conclusion of the Experimental Evaluation of the University Student Career Guidance System

In this experimental evaluation of the employment guidance system for college students, we first examined the ease of use of the system. Through the access test and user feedback, we found that the design language of the system is concise and clear, the layout is reasonable, and the user operation process is clear and easy to get started, which was well received by the users. Secondly, we focused on the practicality of the system. We conducted a utility test on the system, and the results showed that the accuracy rate of the system's reminder function and job recommendation function both reached more than 90%. In addition, in response to users' feedback on the system's screening conditions, we also made corresponding optimizations and improvements to enhance the system's practicality and degree of personalization. Finally, we also tested the stability of the system, and fully tested the handling of anomalies and data storage to ensure the stability and reliability of the system.

In summary, the results of this experimental evaluation show that the AI-based employment guidance system for college students has achieved better results in terms of ease of use, practicability and stability, and is able to provide all-round and personalized employment guidance services for college students majoring in urban rail transit-related fields.

VI. CONCLUSION

In this study, we developed an artificial intelligence-based employment guidance system with the background of employment of college students majoring in urban rail transit-related fields. This system can automatically analyze a large amount of job seekers' information and match match match suitable jobs for them, so as to help college students find their satisfactory jobs faster and more accurately.

During the research process, we used techniques from the fields of machine learning and data mining to analyze and model student information and job information to achieve automated matching and recommendation functions. At the same time, we also applied AI techniques to resume screening and interview assessment sessions, thus improving recruitment efficiency and accuracy.

Overall, we have successfully developed an artificial intelligence-based employment guidance system for college students and achieved good results in practical application. In the future, we will continue to optimize and improve the functions of the system and expand the scope of application, so that more college students can benefit from this system. We believe that with the help of artificial intelligence technology, the employment of college students will become easier and more efficient.

a thank-you note

I am thankful for the time that has allowed me to complete this thesis on the development of an artificial intelligence-based career guidance system for college students in my short academic years. During this process, I deeply felt the sweet and sour of research, and the setbacks and successes I experienced along the way gave me a deeper understanding of the field and a sense of anticipation and confidence for the future. I would like to thank my advisor, Mr. Wenjie Chen, for his selfless guidance and attentive assistance.

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