

Exploration on the Talent Training Path of "Post, Course, Competition, Certificate" for Artificial Intelligence Technology Application Major Based on Huawei 1+X Certificate

Shuanglong Pang^{1,*}, Caijiao Pang², Desheng Zeng¹, Xiaodan Chen¹

¹ Information Engineering Institute, Guangdong Innovative Technical College, Dongguan, China

² Office of Educational Administration, Guangdong University of Education, Guangzhou, China

*Corresponding author. Email: pangshuanglong@vclimbers.org

ABSTRACT

In this paper, on the premise of 1+X certificate system, huawei's 1+X certificate is introduced to gradually improve and enhance the school's ability to cultivate innovative talents. The Huawei Intelligent Computing Platform Application development Level certificate is integrated into the professional talent training program, and a talent training model of "post, course, competition and certificate" is constructed based on Huawei 1+X certificate. In the way of school-enterprise cooperation and professional co-construction, the talent training mode of artificial intelligence technology application specialty is explored. Combining the leading advantages of Huawei technology and services with the advantages of innovative application talent training in the Greater Bay Area, students can have a better employment guarantee.

Keywords: 1+X certificate, artificial intelligence, integration, Talent training.

1. INTRODUCTION

At present, the new generation of information technology is developing rapidly, and the Guangdong-Hong Kong-Macao Greater Bay Area is also actively promoting industrial transformation and upgrading and the construction of digital economy. This paper relies on Huawei's high-quality resources and based on the job needs of enterprises, through cooperation and co-construction of laboratories, introduction of Huawei 1+X certificate system, curriculum system and other methods to gradually improve and enhance the school's innovative talent training capabilities. In the training specifications, according to the requirements of Huawei 1+X certificate, the content of the intelligent computing platform application development (primary and intermediate) examination syllabus is integrated into the professional core curriculum system, and the advanced certification syllabus is integrated into the professional development course. Using the Huawei China University Student ICT Competition and the Huawei Double Election Conference, student competitions and internships are also included in the professional talent training plan to

achieve the integration of "posts, course, competitions, and certificates" in the talent training program. Combining the leading advantages of Huawei's technology and services with the advantages of higher vocational colleges in cultivating innovative and applied talents, it will boost the economic construction and development of the Greater Bay Area.

2. BACKGROUND

Vocational education plays a key role in the current economic development. In order to encourage the development and reform of vocational education, in April 2019, the Ministry of Education, the National Development and Reform Commission, the Ministry of Finance, and the General Administration of Market Supervision jointly issued the "About the Implementation in Colleges and Universities" Educational Certificate + Several Vocational Skill Level Certificates" System Pilot Program" [1]. Vocational colleges are the main body of the implementation of the 1+X certificate system. It is the current direction of vocational education and teaching reform to combine

academic certificates with vocational skill grade certificates, and through reforming the talent training model to achieve the purpose of document certification. Higher vocational colleges are the forefront of artificial intelligence talent training and output. We should fully interpret the 1+X certificate system, introduce high-quality relevant certificates from the artificial intelligence industry and enterprises into schools, and do a good job of graduation certificates and industry The organic fusion of certificates. Improve the quality of talent training, cultivate professional talents that adapt to social development, and contribute to the development of the country's new economy and new industries.

At present, the enrollment sources of higher vocational colleges are diverse, and the quality of individual students varies greatly. When the artificial intelligence technology application major is opened, due to the large number of fields involved in the major, it is impossible to form targeted teaching and professional teaching for differentiated students. The goal is not clear, and the "1+X" certificate system cannot be fully interpreted, resulting in that the talent training is not combined with the 1+X certificate, and the talent training plan cannot meet the current situation of students in private colleges. In the process of teaching, the speed of artificial intelligence development was not taken into account, which led to the derailment of the teaching content. During the internship, students will find that the current professional knowledge reserve and practical ability cannot meet the business expansion of the company, which is not conducive to the students' development. developing. Some colleges and universities have relatively weak resources such as artificial intelligence majors, teaching resources, training bases, and employment channels, and cannot provide professional and targeted training to students, resulting in limited knowledge of students. In the actual operation process, due to The lack of training conditions and competition channels leads to the mismatch between the talent training goals and the needs of the enterprise and the inability to adapt to the development of society. Under the guidance of the "1+X certificate system", the theoretical depth and practical characteristics of higher vocational education will be further improved, and the connection between the relevant personnel training work and the market will be closer [2].

3. TALENT TRAINING MODEL

The Intelligent Computing Platform Application Development Certificate is a 1+X vocational skill level certificate jointly developed by Huawei Technologies Co., Ltd. based on years of technical experience and industry understanding, and organized by enterprise technicians, industry partners, and university teachers. The certificate and Huawei vocational certification channel have achieved 1 certificate and 2 certification,

aiming to cultivate more outstanding talents for the artificial intelligence industry. This paper takes the Huawei 1+X certificate as the main line, focuses on the professional curriculum system, integrates positions, competitions, certificates and courses, and builds an artificial intelligence professional talent training model, as shown in Figure 1.

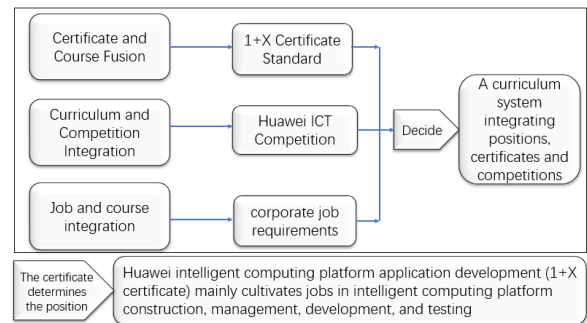


Figure 1 Talent training model

3.1. 1+X certificate is orientation, certificate and course integration.

The construction of the curriculum system for the application of artificial intelligence technology should fully combine the basic situation of students in higher vocational colleges and the development status of society, and apply the intelligent computing platform to develop the relevant standards and courses of the primary certificate, intermediate certificate and advanced certificate. It is integrated into the professional courses of freshman, second and third grades, and the curriculum system and curriculum evaluation standards are reconstructed. When students graduate, they not only get a diploma, but also a 1+X skill level certificate [3].

3.2. Enterprise post-based, competition and course integration.

For students' internship and employment issues, students should be encouraged to actively obtain the 1+X certificate and participate in the Huawei College Student ICT Competition. Make full use of the influence of Huawei Technologies Co., Ltd. in the industry and the recognition of intelligent computing platform application development in the industry. By participating in the Huawei ICT dual-selection meeting, students can achieve a four-in-one integration of professional courses, professional certificates, professional competitions and employment positions. Promote learning with competitions, promote employment with certificates, and use the advantages of enterprises to promote the purpose of student employment.

4. TALENT TRAINING CONTENT

On the basis of school-enterprise cooperation, the introduction of Huawei's intelligent computing platform

application development (1+X certificate) vocational skill level standards At the same time, using the high-quality resources of the enterprise to build a result-oriented school based on enterprise needs and Huawei 1+X certificate. Enterprise collaborative education system. Jointly carry out activities such as teacher training, collaborative education, curriculum construction, Huawei ICT competition for college students, and Huawei ICT dual-selection meeting, and explore the results-oriented "post, class, competition, certificate" professional talent training model, and use this model. It is deeply integrated into the talent training program for the application of artificial intelligence technology, forming a "three-in-one" high-quality "three-in-one" high-quality education corresponding to the primary, intermediate and advanced Huawei 1+X certificates. A training platform for technical and skilled personnel to continuously improve students' professional quality and ability to adapt to regional economic and social development.

5. TALENT TRAINING AND INNOVATION

5.1. The integration of 1+X certificate and professional curriculum system

Based on the diversity of students in higher vocational colleges and the differences of individual students, the joint enterprise builds a community of interests that closely surrounds students and integrates the characteristics of schools, enterprises, majors and teachers, introduces Huawei 1+X certificate, and embeds it into the artificial intelligence major In the curriculum system, professional courses and 1+X certificates are organically combined to achieve the purpose of integration of curriculum certificates [4].

5.2. "post, course, competition, and certificate" integration

Huawei Technologies Co., Ltd. has a certain influence in the industry. The artificial intelligence technology application major relies on the intelligent computing platform application development certificate in Huawei's 1+X certification system to reconstruct the curriculum system, promote learning through competition, promote education through competition, and Certificates promote employment, combining courses, positions, competitions and certificates to cultivate artificial intelligence-related talents.

6. TALENT TRAINING PATH

6.1. Project-based teaching based on enterprise job requirements

Huawei's intelligent computing platform application development (1+X certificate) certification was jointly developed by Huawei with industry experts based on years of experience and enterprise needs. It mainly cultivates artificial intelligence talents engaged in the construction of intelligent computing platforms, platform management, deployment of IDE integrated development environment and system debugging, data management and analysis and processing, application development of basic functions and development and testing of artificial intelligence application products. Integrate the actual project cases of enterprises into the curriculum, carry out project-based teaching, integrate with the industry and society, and improve the professional skills of students.

6.2. Based on Huawei 1+X certificate to build a curriculum system of course certificate integration

In terms of curriculum system construction, based on the standards of Huawei 1+X certificate, fully considering the needs of ICT talent career development, the introduction of the primary, intermediate, and advanced three-level certification system for the application development of Huawei's intelligent computing platform, and the reconstruction of the professional curriculum system. As shown in Figure 1, the curriculum system of the artificial intelligence technology application major integrates the Huawei 1+X certificate to clarify the career development path for students. Upon graduation, students can obtain both the graduation certificate and the Huawei Intelligent Computing Platform Application Development Certificate.

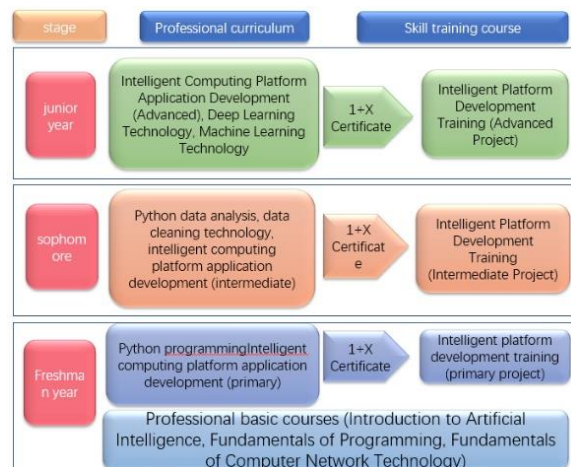


Figure 2 Curriculum System Diagram

6.3. School-enterprise cooperation professional co-construction

6.3.1. Joint construction of training platform

Actively carry out teaching reform, focus on the "professional ability" needs of graduates majoring in artificial intelligence technology application, and carry out in-depth professional construction with enterprises. Based on the professional certification standards of Huawei 1+X certificate, jointly develop course resources with enterprises, organize excellent enterprise engineers to build online teaching and training platforms, use the online teaching platform to optimize course settings and teaching content, and coordinate teaching organization and implementation. , and actively carry out the research and practice of the online + offline hybrid teaching mode to improve the flexibility of talent training [5].

6.3.2. Co-build courses and share teachers

School-enterprise cooperation will jointly formulate the requirements for the construction of professional teams for the application of artificial intelligence technology. The professional courses are jointly held by school and enterprise teachers. Enterprise teachers should complete pre-job training such as teaching standards and teaching capabilities stipulated by the school before taking up their posts. Enterprise teachers regularly participate in new technology training, and regularly practice with enterprises to improve their professional and technical skills. Through mutual recruitment and assignment between schools and enterprises, a team of professional backbone teachers will be jointly cultivated.

6.3.3. Promote learning through competition and improve practical ability

Every year, Huawei organizes and invites Huawei ICT academies and colleges with related majors across the country to participate in the Huawei China College Students ICT Competition. platform, improve students' ICT knowledge level, strengthen students' practical ability and innovative and creative ability to use new technologies and new platforms.

7. CONCLUSION

Based on the 1+X certificate system and combined with Huawei's high-quality resources, this paper explores the talent training model that integrates "posts, courses, competitions, and certificates" for the application of artificial intelligence technology in higher vocational colleges. Using the advantages of the enterprise, the school-enterprise joint training of students is carried out in various ways such as project-based teaching, co-construction of training rooms, teacher sharing, etc., and

the precise connection between the 1+X certificate and the academic certificate is realized. It not only provides assistance for the economic construction and social development of the Greater Bay Area, but also provides ideas for talent training in artificial intelligence-related majors.

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REFERENCES

- [1] Zheng Genrang, Shi Zhiqiang, He Cheng, et al. Reconstructing the core curriculum system of majors with documentary evidence under the 1+X certificate system: Taking WEB front-end development certificate and software technology major as an example [J]. Vocational Education Research, 2020(01): 12-17.
- [2] Yang Yanqing, Song Xing. Analysis on the Reconstruction of the Curriculum System of Higher Vocational Colleges under the "1+X Certificate System"—Taking Electrical Automation Major as an Example [J]. Modern Vocational Education, 2022(09): 76-78.
- [3] Jiang Yanying, Zhang Xueying, Li Xuexing. Exploration of the "Three Certificates" Model of High-skilled Talent Cultivation from the Perspective of Skill Formation: A Dialogue between Academic Framework and Qualification Framework [J]. China Vocational and Technical Education, 2021(33): 17-23.
- [4] Li Jianying, Wang Xu. Research on the Training and Promotion Mechanism of Accounting Professionals in the New Era [J]. Accounting Learning, 2022(01): 150-152.
- [5] Tao Songqiao. Research on the "Book-Certificate-Competition" Integrated Talent Training Model for Industrial Robotics under the "1+X" Certificate System [J]. Journal of Hubei Adult Education Institute, 2021, 27(03): 31-36.