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A Talent Cultivation System in the Field of Artificial Intelligence in Universities Based on School Enterprise Cooperation

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Abstract: This paper draws objective conclusions from field research, establishes a talent cultivation and technological innovation system in the field of artificial intelligence, analyzes the phenomena and problems that arise in school enterprise cooperation, explores their underlying reasons, and explores how to establish a talent cultivation mechanism for school enterprise cooperation in the field of artificial intelligence, establishes a basic model for artificial intelligence talent cultivation, establishes standards, human resources support, improves guarantee systems, reforms in teaching and learning, and integrates disciplines.

Keywords: School enterprise cooperation; Artificial intelligence talent cultivation

1. The significance and value of raising questions and selecting topics

The computing power of computers has greatly improved, massive datasets are gradually forming, and a new wave of artificial intelligence is emerging globally. According to the "2017 Global Artificial Intelligence Talent White Paper" released by Tencent Research Institute in December 2017, "the top universities in the global artificial intelligence field are mostly in the United States. There are about 20000 graduates in the field of artificial intelligence every year, which is far from meeting the market's demand for talent. The talent cultivation in the field of artificial intelligence in China is the key to mastering the initiative in the new round of international scientific and technological competition. In the face of the major development opportunities of the new generation of artificial intelligence, the Notice of the State Council on Printing and Distributing the Development Plan of the New Generation of Artificial Intelligence (GF [2017] No. 35) and the spirit of the 2017 National University Science and Technology Work Conference guide colleges and universities to aim at the world's scientific and technological frontier, strengthen basic research, achieve major breakthroughs in forward-looking basic research and leading original achievements, and further improve the ability of colleges and universities in the field of artificial intelligence to innovate in science and technology, cultivate talents, and serve national needs. This action plan is hereby formulated. However, relying solely on the strength of universities to cultivate talents and experience in the field of artificial intelligence is somewhat insufficient. We should work with experienced enterprises to jointly cultivate talents in this field, and take the needs of enterprises as our direction for building an artificial intelligence talent training system and cultivating talents for the comprehensive development of the artificial intelligence era. Utilize the power of enterprises and various fields to carry out practical applications. Analyze the cultivation of basic research talents, technology R&D talents and application practice talents in combination with social needs, so as to provide reference and reference for China to lead the development of a new generation of AI, provide human support for the development of China's AI field, and promote China to occupy the commanding heights of AI technology.

2. The research content of this topic

2.1 Research objectives

The basic model for cultivating artificial intelligence talents should establish standards, have human support, and have a sound guarantee system. Only on this basis can teaching and learning reforms and disciplinary integration be carried out. In top-level design, emphasis is placed on theoretical research, promoting changes in teaching and learning, and facilitating the integration of artificial intelligence education and disciplines; Improve policy guarantees, strengthen discipline construction, promote scientific popularization, and promote educational equity; Human resource support: Strengthen the construction of teaching staff and hire high-end talents to participate in artificial intelligence education; Establishing standards: normative guidance, emphasis on ethics, scientific development, and open innovation.

2.2 Main research content

School enterprise cooperation is an important way for universities to cultivate talents in the field of artificial intelligence. However, many applied undergraduate colleges currently lack experience in school enterprise cooperation in this field, with a single form of cooperation and poor talent cultivation results. Exploring the connotation of establishing a more efficient school enterprise cooperation talent cultivation mechanism in the field of artificial intelligence and promoting the deep development of school enterprise cooperation has become a hot topic in the current applied talent cultivation. At present, there are the following problems in school enterprise cooperation in the field of artificial intelligence.

2.2.1 The professional training program does not match the cooperation mode

Based on the characteristics of universality, transferability, and penetration of artificial intelligence theory and technology, actively combining students' learning interests and social needs, actively carrying out research and practice of "new engineering", adjusting and integrating majors such as intelligent science and technology, data science and big data technology in computer science.

2.2.2 There is no comprehensive quality evaluation and assurance system that is compatible with the training program

To comprehensively establish a quality evaluation and assurance system that meets the requirements of cultivating applied talents. Actively explore teaching organizational models such as course selection system and phased completion of studies. Reform the evaluation method for teacher teaching quality by using student satisfaction rate, enterprise satisfaction rate, and social satisfaction rate as the core indicators for evaluation. A course assessment and evaluation system that combines process assessment and outcome assessment. Establish a tracking and monitoring mechanism for on-the-job internships, and jointly implement quality management for on-the-job internships between schools and enterprises. Establish a mechanism for tracking and investigating the quality of graduates, focusing on the career development status of both the graduate population and individuals.

2.2.3 The depth and intensity of students' participation in the front line of enterprises are insufficient.

Both parties should focus on improving students' practical application abilities, deepen the construction of training bases, achieve paid internships, gradually promote the depth and intensity of students' participation in the production line of enterprises, and enhance the value of students' internships. For example, in 2010, Qingdao implemented a paid internship system throughout the city, and the salary of graduates during the paid internship period was shared equally by the internship base and the government. Once this system was introduced, 38 internship units in Sifang District alone established internship bases, effectively promoting the construction and development of paid internship bases.

2.2.4 Strengthen curriculum and textbook development.

Strive to build excellent and high-quality courses, and use the construction of high-quality courses to drive the overall curriculum construction in the field of artificial intelligence. At the same time, we will strengthen the development and sharing platform construction of on-line teaching resources such as online courses, introduce new knowledge, new technologies, new standards, new equipment, new processes, and new achievements from industry enterprises in real time, and dynamically update teaching content. Deepen project teaching, on-site teaching, and case teaching, and strengthen the construction of core courses. In order to improve and enrich the cultivation of applied talents, strengthen practical teaching, and combine professional training objectives, we actively develop and write a series of characteristic textbooks with enterprise project developers, complete electronic teaching and multimedia courseware, and ensure the optimization and matching of textbooks.

2.2.5 School enterprise stock cooperation model.

Re evaluate the assets of vocational colleges and enterprises, and closely integrate the interests of both parties in the form of shareholding cooperation. According to the proportion of assets invested by both schools and enterprises, a board of directors will be established with the enterprise or school as the main body to jointly manage and operate the school and enterprise, and establish an integrated development model of school enterprise stock cooperation.

2.2.6 Artificial intelligence training rooms have entered the mode of enterprise and enterprise R&D laboratories entering universities.

Promote a two-way exchange mechanism between university teachers and industry talents. Cooperate with enterprises to establish artificial intelligence colleges, artificial intelligence research institutes, or artificial intelligence cross research centers, promote innovative models of combining science and education, integrating industry and education, and cultivating innovative and entrepreneurial talents in the field of artificial intelligence through multiple channels. Jointly invested by schools and enterprises, we will construct productive training bases that meet the production requirements of enterprises, and build on campus training rooms in enterprises, transforming simple training rooms into frontline research and development venues.

2.2.7 Actively building a training platform for teachers in the field of artificial intelligence, and improving the teaching level of the teaching staff in the field of artificial intelligence.

Strengthen talent cultivation efforts. Deepen industry university cooperation and collaborative education, promote the implementation of industry university cooperation and collaborative education projects in the field of artificial intelligence, and promote talent cultivation reform with the latest achievements in industrial and technological development. 'Teachers entering enterprises' means arranging 3-5 professional teachers to participate in on-the-job training, project development, and technical services in enterprises every year, in order to improve and enrich teachers' engineering practice ability and project development and implementation experience. Engineers entering the classroom "involves hiring enterprise engineering and technical personnel to proofread teachers for practical training purposes; Secondly, for some highly practical courses, hire technical personnel from enterprises to teach and improve the effectiveness of teaching; Thirdly, half of the topics for students' course design and graduation design come from practical problems on the front line, and on-site engineers are hired to participate in guidance.

3. Conclusions

In the field of artificial intelligence, the cooperation model between universities and enterprises is of great significance for cultivating high-quality talents that meet the needs of the new era. Through this study, we have delved into the cooperation mechanism between schools and enterprises in the cultivation of artificial intelligence talents, and proposed corresponding solutions and strategies to address the existing problems in the current cooperation. This study provides useful reference and inspiration for building an efficient and scientific artificial intelligence talent training system. In the future, we will continue to deepen cooperation between schools and enterprises, promote technological innovation and talent cultivation in the field of artificial intelligence, and contribute wisdom and strength to China's advantageous position in international competition in the field of artificial intelligence.

References

- [1] Kalyvas, C.; Maragkoudakis, M. A skyline-based decision boundary estimation method for binominal classification in big data., Proceedings of the 2020 5th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM), Corfu, Greece, 25–27 September 2020.
- [2] Ouadah, A.; Hadjali, A.; Nader, F.; Benouaret, K. Sefap: An efficient approach for ranking skyline web services. *J. Ambient Intell. Humaniz. Comput.* 2019, 10, 709–725.
- [3] D. Gil, A. Ferrández, H. Mora-Mora, and J. Peral, 'Internet of Things: A review of surveys based on context aware intelligent services'. *Sensors*, vol. 16, no. 7, p E1069, Jul. 2016.
- [4] Chen Zi-jun, Li Sheng-yang, Liu Wen-yuan. Range-constrained Top-k keyword query on road networks. *Journal of Chinese Computer Systems*, 2017, 38(12): 2707-2713.

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