Research on the Construction of Micro-major of AI in Colleges and Universities and Enrollment Linkage Mechanism under the Background of Macro-finance

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Abstract: *This document presents a comprehensive overview of artificial intelligence's development opportunities and challenges, focusing on strategies for its micro-construction. It highlights the importance of optimizing training objectives and curriculum systems, enhancing practical teaching, and fostering industry-university research collaborations. Additionally, it emphasizes the construction of teaching staff and the improvement of teaching quality. Furthermore, the document discusses the construction of five enrollment linkage mechanisms, integrating market demand with enrollment plans, promoting enrollment and brand building, and fostering collaboration between enrollment selection and talent cultivation. In conclusion, it offers recommendations for policy support, financial investment, and the continuous improvement and optimization of enrollment linkage mechanisms.*

Keywords: *Artificial Intelligence, Construction of Micro Majors in Artificial Intelligence, Enrollment Linkage Mechanism, Development Opportunities and Challenges, Finance*

1. Introduction

As the era of big finance creeps quietly into our midst, the tide of artificial intelligence technology has been continuously swelling within the financial sector. Its pervasive application and profound impact have emerged as the pivotal driving force propelling innovation and upgrading in the financial industry. Against this backdrop, the demand for professionals proficient in artificial intelligence technology is exhibiting an unprecedented surge. Universities, being the cradle of talent cultivation and the fount of technological innovation, naturally bear the weighty responsibility of nurturing high-caliber talents who are well-suited to the contours of big finance.

In response to the propositions of this era, universities must actively embrace the demands of the contemporary landscape, align with the evolving trends within the financial industry, and reinforce the establishment of artificial intelligence micromajors. This initiative not only represents an enhancement in the quality of higher education, but also serves as a robust foundation for the financial industry's future growth. By developing a comprehensive artificial intelligence micromajor curriculum, universities can strengthen practical teaching, foster innovative thinking and practical abilities among students, and empower them to seamlessly adapt to the intelligent development trajectory of the financial industry.

Moreover, optimizing the enrollment mechanism holds a pivotal position in the development of artificial intelligence micromajors in universities. By devising scientific and rational enrollment policies, universities can amplify enrollment outreach and promotion efforts, thereby attracting a broader pool of students with a keen interest in artificial intelligence and finance. This influx of interested students will continuously inject vitality into the micromajor's development. Additionally, universities ought to establish an enrollment-linked talent cultivation mechanism, promptly adjusting professional construction and talent development plans in accordance with enrollment trends. This ensures a precise alignment between talent cultivation and industry demand, fostering a seamless transition from academia to the financial industry.

In conclusion, the exploration and implementation of a linkage mechanism between the establishment of artificial intelligence micromajors and enrollment practices in universities, against the backdrop of big finance, holds immense significance for driving educational reform in universities, enhancing the quality

of talent cultivation, and catalyzing innovative advancements in the financial industry. Consequently, this article endeavors to delve deeply into the current status, issues, and challenges pertaining to this domain, and suggests pertinent strategies and recommendations. The objective is to furnish valuable insights and references that can inform and guide the construction and development of artificial intelligence micromajors within universities.

2. Literature Review

In China, with the rapid development of the era of big finance, the application of artificial intelligence technology has become increasingly widespread. Especially in the financial sector, artificial intelligence has emerged as a crucial force driving industry innovation and upgrading. Consequently, the linkage mechanism between the construction of micro majors in artificial intelligence and enrollment in universities has gradually become a focal point of attention in both academic and practical circles.

Currently, domestic scholars primarily conduct research from the following perspectives: Firstly, regarding the construction of micro majors in artificial intelligence, domestic universities generally emphasize alignment with the financial industry. They attempt to establish a professional curriculum system that meets industry needs and strengthen practical teaching components to enhance students' practical application abilities. Secondly, in terms of the enrollment linkage mechanism, universities have begun exploring enrollment strategies based on professional characteristics and employment prospects. By optimizing enrollment promotion, strengthening communication and cooperation with secondary schools, and other means, they aim to attract more students interested in artificial intelligence and finance to apply.

However, there are also some shortcomings in domestic research. For instance, there is insufficient in-depth research on the linkage mechanism between the construction of micro majors in artificial intelligence and enrollment. There is a lack of a systematic theoretical framework and empirical support. Additionally, there is insufficient discussion and analysis on how to promptly adjust professional construction and enrollment strategies based on changes in the development of the financial industry.

Internationally, the development of artificial intelligence technology is equally rapid, especially in its application in the financial sector. Foreign universities and research institutions have also conducted extensive exploration and practice.

In the article "FinBrain: when finance meets AI 2.0", XL Zheng, MY Zhu, and others discussed the issue of financial intelligence, introduced the development of financial intelligence, and reviewed the latest technologies in wealth management, risk management, financial security, financial consulting, and blockchain. Finally, they proposed a research framework called FinBrain and summarized four open issues, namely, explainable financial agents and causality, perception and prediction under uncertainty, risk-sensitive and robust decision-making, and multi-agent game and mechanism design[1].

When it comes to the construction of micro majors in artificial intelligence, foreign universities prioritize cultivating students' innovative thinking and practical abilities. By offering interdisciplinary courses and strengthening cooperation with enterprises, they provide students with broader learning and practical platforms. In terms of the enrollment linkage mechanism, foreign universities typically possess more comprehensive enrollment systems and evaluation mechanisms. They can conduct precise enrollment based on students' interests, abilities, and career plans, thus better meeting industry demands.

LI Zhen and DD Zhou, in their article "Research on the Artificial Intelligence in Education under the Background of Artificial Intelligence Application," constructed a technical framework for artificial intelligence in education based on four key elements. They also analyzed its typical applications and proposed a future development path for artificial intelligence in education from four aspects: strengthening interdisciplinary research, improving the educational data ecosystem, cultivating professionals in educational artificial intelligence, and deepening the application of artificial intelligence in education. The aim is to promote the deep integration of artificial intelligence and education[2].

Mudasir Ali Rind, Mohammad Ali AL Qudah, and Pirali Aliyev, in their article "Determining the Impact of Artificial Intelligence on the Development of Higher Education," validated through data collected from 121 respondents from five higher education institutions in Sindh, Pakistan, that artificial intelligence can indeed enhance learning capabilities and efficiency, and is also very useful in increasing knowledge and promoting the learning process[3].

Moreover, foreign scholars have conducted in-depth research on the linkage mechanism between the

construction of micro majors in artificial intelligence and enrollment from multiple perspectives, including policy, economy, and culture. They have proposed a series of beneficial suggestions and insights. For instance, governments should increase investment and support for artificial intelligence education and promote deep cooperation between universities and enterprises. Simultaneously, universities should also strengthen career planning guidance for students to help them better adapt to industry development needs[4].

3. The Development Opportunities and Challenges of Artificial Intelligence Micromajors in the Context of Big Finance

With the deepening advancement of the era of big finance, the development of micro majors in artificial intelligence has ushered in unprecedented opportunities. The intelligent transformation of the financial industry has provided vast application scenarios for artificial intelligence technology. From intelligent risk control, intelligent investment advisory, to intelligent customer service, artificial intelligence is gradually infiltrating into every aspect of the financial sector, bringing unprecedented efficiency improvements and innovative spaces to the industry. Consequently, the demand for talents proficient in artificial intelligence technology has exploded. As the cradle of talent cultivation, universities' micro majors in artificial intelligence have undoubtedly become an important channel to meet this demand.

However, opportunities often coexist with challenges. Against the backdrop of big finance, the development of micro majors in artificial intelligence also faces numerous challenges. Firstly, the technological revolution in the financial sector is rapidly evolving, which requires micro majors in artificial intelligence to keep up with the times, continuously updating teaching content and methods to meet the needs of industry development. Secondly, enhancing students' practical and innovative abilities poses a significant challenge. Traditional theoretical teaching is no longer sufficient to meet the actual needs of the modern financial industry. Therefore, universities need to strengthen cooperation with enterprises, establish practical teaching bases, and provide students with more practical opportunities and platforms. Additionally, issues such as how to construct a scientific and reasonable curriculum system, strengthen the construction of teaching staff, and optimize the enrollment mechanism urgently need to be addressed.

In the face of these challenges, universities need to take active and effective measures to respond. It is crucial to strengthen cooperation and communication with enterprises, understand the latest trends and developments in the industry, and promptly adjust professional construction and talent cultivation plans.

4. Strategies for the construction of artificial intelligence micro majors in universities

4.1. Training objectives and curriculum system optimization

In the context of big finance, the construction of artificial intelligence micro majors in universities first needs to clarify the training objectives. This goal should not only meet the talent needs of the financial industry, but also reflect the latest development trends of artificial intelligence technology. Specifically, the training objectives should focus on cultivating high-quality talents with a solid theoretical foundation in artificial intelligence, proficient knowledge in the financial field, and innovative thinking and practical abilities.

To achieve this goal, the optimization of the curriculum system is crucial. Firstly, a diversified and modular curriculum system should be constructed, including multiple aspects such as basic theories of artificial intelligence, financial knowledge, and practical applications. This can ensure that students master necessary theoretical knowledge and improve their practical application abilities. Secondly, course content should be adjusted and updated in a timely manner based on industry development trends and technological changes to ensure the timeliness and foresight of the curriculum system.

4.2. Practical teaching and industry university research cooperation

Practical teaching is an important means to improve students' practical and innovative abilities. Therefore, artificial intelligence micro majors in universities should strengthen laboratory construction and experimental practice. By building advanced laboratories and equipped with complete experimental equipment, we provide students with a good practical environment. At the same time, rich experimental

courses and practical projects should also be offered to enable students to master knowledge and skills in practice.

In addition, deepening industry university research cooperation is also an important way to improve the quality of practical teaching. Universities should actively cooperate with enterprises, research institutions, and other organizations to jointly carry out activities such as talent cultivation and scientific research. Through industry university research cooperation, more practical opportunities and platforms can be provided for students, while also promoting collaborative education in industries, achieving seamless integration between talent cultivation and industry demand[5].

4.3. Construction of teaching staff and improvement of teaching quality

The teaching staff is the core force in the construction of artificial intelligence micro majors. In order to improve the quality of teaching, universities should adopt a strategy of combining introduction and training, and optimize the structure of teaching staff. On the one hand, actively introducing excellent teachers who possess rich practical experience and innovative abilities will inject new vitality and motivation into the profession. On the other hand, we should strengthen the training and development of existing teachers to improve their teaching level and research ability.

At the same time, universities should establish a sound mechanism for evaluating teaching quality, and regularly evaluate and provide feedback on the teaching quality of teachers. By analyzing and improving the evaluation results, the quality of teaching can be continuously improved, providing students with a better learning experience[6].

5. Construction of Five Enrollment Linkage Mechanisms

In the context of "big finance", the construction of artificial intelligence micro majors in universities needs to be closely aligned with market demand, and an effective enrollment linkage mechanism should be established to ensure the pertinence and adaptability of talent cultivation.

5.1. Market demand and enrollment plan integration

Firstly, universities should conduct in-depth analysis of the demand for artificial intelligence talents in the financial industry. By conducting research on industry trends, technological developments, and enterprise needs, we can reasonably predict future changes in talent demand and develop enrollment plans that meet market demands. This process should focus on the following aspects:

Industry demand analysis: By communicating with financial institutions and industry experts, we can understand the specific needs of the financial industry for artificial intelligence technology, encompassing technical skills, professional knowledge, and innovation capabilities, among others.

Data driven decision-making: By utilizing big data analysis tools, we can collect and analyze industry talent demand data, thereby providing data support for the formulation of enrollment plans.

Dynamic adjustment mechanism: Establish a flexible enrollment plan adjustment mechanism and adjust the enrollment scale, professional direction, and course settings in a timely manner in accordance with changes in market demand.

5.2. Enrollment promotion and brand building

In order to attract more outstanding students to apply, universities need to strengthen enrollment promotion and brand building:

Innovative publicity methods: use the Internet, social media and other platforms to publish professional introductions, alumni stories, industry trends and other content to improve the social popularity of the profession.

Highlighting professional characteristics: Emphasizing the close integration of artificial intelligence micro majors with the financial industry in promotion, as well as the advantages of majors in technological innovation, practical teaching, and other aspects.

Brand image building: Gradually establish a professional brand image through high-quality teaching results, industry university research cooperation projects, and graduate employment performance.

5.3. Collaboration between enrollment selection and talent cultivation

The synergy between enrollment selection and talent cultivation is the key to ensuring the quality of talent cultivation:

Perfect selection criteria: Develop comprehensive selection criteria that not only focus on students' academic performance, but also consider their comprehensive qualities, such as logical thinking, teamwork, and innovative consciousness.

Talent cultivation management: Strengthen the management of the talent cultivation process, ensure the quality of talent cultivation through regular teaching quality evaluation, student learning feedback, and internship employment guidance.

Quality improvement measures: Implement a teaching quality improvement plan, encourage teachers to participate in teaching reform, optimize course content and teaching methods, and improve the market competitiveness of graduates.

Through the above measures, artificial intelligence micro majors in universities can establish a recruitment mechanism closely linked to market demand, and provide high-quality talents for the financial industry. This not only helps to meet the urgent demand for artificial intelligence professionals in the industry, but also brings new opportunities for the development of universities themselves.

6. Final Remarks and Suggestions

6.1. Concluding Summary

With the advancement of the era of big finance, the construction of artificial intelligence micro majors in universities has become an important direction for talent cultivation. At present, universities have made significant progress in this field, not only establishing a relatively complete curriculum system, but also strengthening practical teaching and industry university research cooperation, laying the foundation for cultivating high-quality talents that meet the needs of the industry.

However, we must also face the problems and challenges in the construction of artificial intelligence micro majors in universities. Among them, the construction of the enrollment linkage mechanism is particularly crucial. At present, some universities have not yet formed an effective linkage mechanism in the enrollment process, resulting in a certain degree of disconnection between enrollment and professional construction. This not only affects the sustainable development of the profession, but also restricts the improvement of the quality of talent cultivation.

In response to the above issues, this article proposes strategies and measures to build a linkage mechanism for enrollment. By optimizing enrollment policies, strengthening enrollment promotion, and establishing cooperation mechanisms with secondary schools, we can achieve an organic connection between enrollment and professional development. The implementation of these measures will help improve the enrollment quality of artificial intelligence micro majors in universities and further promote the healthy development of the majors.

6.2. Countermeasures and Suggestions

6.2.1. Policy support and financial investment

The government should increase support for the construction of artificial intelligence micro majors in universities, formulate relevant policies, and provide strong guarantees for professional development. At the same time, increase investment in laboratory construction, teacher training, curriculum design, and other aspects to enhance the overall strength of the profession.

6.2.2. Industry university research cooperation and international education

Universities should actively engage in deep collaborations with enterprises, research institutions, and other organizations to jointly promote the development of micro majors in artificial intelligence. Through industry-university-research cooperation, they can achieve resource sharing, complementary advantages, and enhance the practicality and innovation of the major. Additionally, it is essential to strengthen cooperation and exchanges with internationally renowned universities, introduce advanced educational concepts and technological means, and promote the internationalization of the major.

6.2.3. Continuous improvement and optimization of enrollment linkage mechanism

Universities should establish evaluation and feedback mechanisms for the enrollment linkage system, regularly assessing and adjusting enrollment policies and promotional strategies. Simultaneously, it is crucial to strengthen communication and cooperation with secondary schools, understanding their teaching needs and students' interests and hobbies, to provide a basis for formulating more targeted enrollment strategies. Furthermore, attention should be paid to tracking and feedback after enrollment, promptly understanding students' learning situations and development needs, and providing strong support for the cultivation of professional talents.

7. Conclusions

In summary, the construction of micro majors in artificial intelligence and the establishment of an enrollment linkage mechanism in universities is a systematic project that requires the joint efforts of governments, universities, enterprises, and other parties. Through the implementation of measures such as policy support, capital investment, industry-university-research cooperation, and the optimization of the enrollment linkage mechanism, we believe that we can cultivate more high-quality talents who are adaptable to the context of big finance and make positive contributions to promoting social and economic development.

Acknowledgements

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