

# The Impact of Artificial Intelligence Applications on the Development of the International Economics Major: Challenges and Opportunities

Huashen Cao

School of Business, Lingnan Normal University, China

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**Abstract:** This paper explores the impact of artificial intelligence (AI) on the development of the International Economics major and proposes corresponding strategies. With the rapid advancement of AI technology, its applications in the field of international economics have become increasingly widespread, presenting both unprecedented opportunities and challenges for the major. The study finds that AI has driven changes in the talent cultivation model of the International Economics major. By providing personalized learning pathways and abundant practical opportunities, AI enhances students' practical and innovative abilities. Moreover, AI has promoted interdisciplinary integration, expanded research directions, innovated research methods, and facilitated the integration and sharing of academic resources. In terms of employment and career development, AI has given rise to emerging occupations and job positions while also driving traditional careers towards data - driven transformation. In response to these changes, this paper puts forward strategies in talent cultivation, academic development, and major development, including enhancing AI literacy education, promoting interdisciplinary cooperation, optimizing the curriculum system, and fostering international cooperation and exchange. The implementation of these strategies will help the International Economics major better adapt to the demands of the AI era, cultivate more innovative and practically - oriented professionals, and drive the continuous development and innovation of the discipline.

**Keywords:** Artificial Intelligence (AI); International Economics Major; Student Cultivation; Academic Performance; Career Development.

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## 1. Introduction

With the rapid advancement of artificial intelligence (AI) technology, its applications have become increasingly widespread across various fields. From smart homes to autonomous driving, from medical diagnostics to financial risk prediction, AI is profoundly transforming our ways of living and working. In the realm of education, AI has also demonstrated immense potential. It can offer personalized learning experiences to students through intelligent tutoring systems and online learning platforms, catering to the needs of diverse learners. It assists teachers in managing instruction by optimizing teaching strategies through data analysis. Moreover, it propels innovation in academic research by providing new tools and methods. As a discipline closely related to global economic dynamics, the major of International Economics is confronted with unprecedented opportunities and challenges. On one hand, AI technology provides new means and perspectives for the teaching and research in International Economics, facilitating the cultivation of more innovative and practically - capable professionals. On the other hand, the major needs to adapt to changes in the job market brought about by technological shifts, adjusting talent - cultivation goals and the curriculum system to better meet the demands of future society [1].

This study aims to delve into the mechanisms through which AI impacts the development of the International Economics major. Specifically, we will examine how AI influences talent - cultivation models in the major, including the optimization of the curriculum system, innovation in teaching methods, and the development of students' practical and innovative abilities. We will also focus on the effects of AI on academic development in International Economics,

such as the expansion of research directions, innovation in research methods, and the integration and sharing of academic resources. In addition, this study will explore the impact of AI on employment and career development in the field of International Economics, including trends in the job market, new requirements for vocational skills and literacy, and changes in career - development pathways. Through these investigations, we hope to provide valuable references and insights for the teaching reform and academic development of the International Economics major [2].

This study holds significant theoretical and practical importance. From a theoretical standpoint, by systematically analyzing the application of AI in the International Economics major, this research will enrich the theoretical studies on the application of AI in education and offer new perspectives and theoretical support for interdisciplinary research involving International Economics [3]. From a practical perspective, this study will provide concrete strategies and suggestions for the teaching reform of the International Economics major, helping educators better utilize AI technology to optimize the teaching process and enhance teaching quality. Meanwhile, it will also guide the academic development of the major by promoting the integration and sharing of academic resources and driving innovation in academic research. Moreover, this study will offer references for the employment and career development of students majoring in International Economics, assisting them in better adapting to changes in the job market brought about by technological transformations and enhancing their vocational competitiveness [4].

## **2. Development of the Major in International Economics**

The major in International Economics is a discipline that studies international economic relations, economic activities, and their underlying patterns of operation. It encompasses a wide range of fields, including international trade, international finance, international investment, and international economic cooperation. The primary goal of this major is to cultivate professionals who possess a solid foundation in economic theory, are well-versed in international economic rules and practices, and are capable of analyzing and resolving international economic issues. The core subjects of study within this major include trade interactions between nations, capital flows, exchange rate fluctuations, the role of international economic organizations, and the formulation and implementation of global economic policies. The curriculum typically consists of courses such as Microeconomics, Macroeconomics, International Trade Theory and Practice, International Finance, International Investment, and An Introduction to the World Economy. These courses are designed to provide students with a comprehensive knowledge system and analytical tools in the field of international economics [5].

The acceleration of the globalization process has brought unprecedented opportunities for the major in International Economics. Firstly, the continuous growth of international trade and investment has increasingly highlighted the importance of the knowledge and skills associated with this major in economic activities. Professionals in International Economics can offer decision-making support for the international strategies of businesses, assisting them in seizing opportunities and meeting challenges in the complex international economic environment. Secondly, the deepening of international economic cooperation, exemplified by the establishment and development of regional economic integration organizations such as the European Union and the Association of Southeast Asian Nations, has provided a wealth of practical cases and research topics for the study of International Economics. Professionals in this field can contribute theoretical foundations and policy recommendations for national and regional economic cooperation policies through their research on these cooperation mechanisms [6]. Additionally, with the continuous improvement of the global economic governance mechanism, the role of the major in International Economics within international organizations, such as the World Bank and the International Monetary Fund, has become increasingly prominent, offering a broad international stage for professionals in this field [7].

Despite the numerous opportunities brought about by globalization, the development of the major in International Economics also faces severe challenges due to the emergence of new technologies and changes in the economic situation. Firstly, the rapid development of emerging technologies such as artificial intelligence, big data, and blockchain is profoundly altering the way international economics operates. For instance, the application of artificial intelligence in the financial sector has made financial transactions more efficient and precise, but it has also introduced new risks and regulatory challenges. The use of big data technology in international trade helps businesses better understand market demand and consumer behavior, but it also raises higher demands for data security and privacy protection. The major

in International Economics needs to promptly update its curriculum and teaching content to incorporate these emerging technologies, cultivate students' digital literacy and innovative abilities, and adapt to the changes brought about by technological transformations [8].

The increasing uncertainty of the global economic situation, along with the rise of trade protectionism and geopolitical conflicts, has had a profound impact on international economic activities. The major in International Economics needs to enhance its capacity for analyzing and forecasting the global economic situation, cultivate students' international vision and strategic thinking, and help them better cope with the complex and changing international economic environment. Moreover, with the rise of emerging economies, the global economic landscape is undergoing significant changes. The major in International Economics needs to pay attention to the development models and economic policies of emerging economies, explore international economic cooperation models and trade rules that are compatible with them, and provide intellectual support for the sustainable development of the global economy [9].

## **3. Mechanisms of AI's Impact on the Development of the Major in International Economics**

Artificial Intelligence (AI) has given rise to emerging occupations such as financial data analysts, robot-advisors, cross-border e-commerce operations officers, and digital trade analysts. These positions demand professionals who possess a combination of knowledge in international economics and AI technology. Meanwhile, traditional careers are also undergoing data-driven transformations. For instance, financial analysts are now required to have skills in data analysis and machine learning, while trade officers need to be proficient in cross-border e-commerce operations and digital marketing technologies. Talents in the field of international economics are expected to have AI literacy and data-processing capabilities, including techniques in machine learning, big data analytics, and natural language processing [10]. Moreover, the combination of innovative ability and interdisciplinary knowledge has become an essential requirement. For example, in the field of financial technology, the integration of international finance and computer science knowledge is necessary for the development of new financial products. AI technology also offers entrepreneurial opportunities for professionals in international economics, such as developing robot-advisory systems or cross-border e-commerce platforms in the fields of financial technology and digital trade. Additionally, AI propels internationalization, enabling professionals to enhance their competitiveness through international cooperation projects and academic exchanges.

Furthermore, AI technology has propelled the development of talent cultivation in the major of international economics towards personalization and intelligence. Through learning analytics systems, AI can dynamically adjust teaching content and difficulty levels based on students' learning behavior data, offering customized training programs. For example, the system may recommend courses in financial data analysis or trade negotiation practice to meet the needs of different career goals. This personalized learning path not only improves learning efficiency but also enhances students' career competitiveness. AI also provides students with abundant

practical opportunities. Virtual laboratories and simulated trading platforms allow students to experience the operations of international trade and financial markets in a virtual environment, such as conducting trade negotiations, signing contracts, and making investment decisions. These technologies reduce the cost of practice, enhance its safety, and at the same time, promote the cultivation of students' innovative thinking [11]. For instance, in the course of international economic policy analysis, intelligent systems can provide the latest policy cases to guide students in policy evaluation and innovative suggestions.

Lastly, to adapt to the demands of the AI era, the major in international economics needs to add courses in AI fundamentals, machine learning, big data analytics, natural language processing, and establish interdisciplinary courses such as "AI and International Finance" and "AI and International Trade." These courses help students grasp data analysis and AI technologies and understand their applications in the field of international economics, such as using machine learning for financial risk prediction or trade market analysis. AI technology has driven the development of intelligent tutoring and online learning platforms, enabling students to receive learning support anytime, anywhere. Intelligent tutoring systems provide personalized feedback and resource recommendations based on students' learning situations, while online platforms enhance interactivity, such as through discussion forums to promote academic exchanges [12]. Additionally, virtual laboratories and simulated teaching have become important teaching methods. For example, in the simulated course of the international financial market, students can conduct stock trading and risk management operations, while the simulated course of international trade allows students to experience the trade process, thereby improving their understanding of international trade operations.

## **4. Strategies for the Major in International Economics to Cope with the Development of Artificial Intelligence**

### **4.1. Talent - Cultivation Strategies**

In the education of the major in International Economics, AI literacy education is an essential component. This encompasses not only an understanding of the fundamental principles and applications of AI technology but also its concrete practices within the realm of international economics. By introducing foundational AI courses, students can grasp the basic concepts and application methods of key technologies such as machine learning, big data analytics, and natural language processing. For instance, students can learn how to utilize data for prediction and decision - making through machine learning algorithms, which is of great significance for analyzing trends in international financial markets and the effectiveness of trade policies. Meanwhile, practical courses and projects enable students to apply theoretical knowledge to real - world problems, such as using AI tools for the analysis of international trade data and market forecasting, thereby enhancing their practical abilities and capabilities in solving complex issues.

Students majoring in International Economics need to possess interdisciplinary knowledge and skills to meet the demands of the AI era. The curriculum should encourage

students to take courses in related disciplines such as computer science, mathematics, and statistics, to develop their abilities in data analysis, algorithm design, and model construction. For example, through collaboration with the computer science major, students in International Economics can learn how to develop and apply AI algorithms to address economic problems. This interdisciplinary educational model not only broadens students' scope of knowledge but also enhances their adaptability and innovation capabilities in different fields. Moreover, universities can establish interdisciplinary research projects and laboratories to provide students with practical opportunities for interdisciplinary research and to foster collaboration among students from diverse academic backgrounds.

Practical teaching is a crucial element in cultivating students' practical and innovative abilities in the major of International Economics. By collaborating with businesses and financial institutions to establish internship bases and practical projects, students can apply their acquired knowledge in real - world work settings and stay informed about industry trends and demands. For example, during an internship at a financial institution, students can participate in projects that utilize AI technology for risk assessment and investment decision - making, thereby deepening their understanding of AI applications in the financial sector. Additionally, universities can organize innovation competitions and entrepreneurship projects to encourage students to propose innovative solutions to real - world problems in international economics. These activities not only stimulate students' innovative thinking but also provide a platform for integrating theory with practice, which is conducive to fostering students' innovation and entrepreneurial spirit.

### **4.2. Interdisciplinary Integration Strategies**

Interdisciplinary integration is an inevitable choice for the major in International Economics to cope with the development of AI. Universities should encourage the major to engage in in - depth cooperation with other disciplines such as computer science, mathematics, and statistics, to jointly undertake research projects and curriculum development. For example, joint research teams can be established to focus on the application of AI in international economics, such as using big data analytics for international trade market forecasting and machine learning algorithms for financial risk assessment. This kind of interdisciplinary collaboration not only promotes knowledge sharing and technological innovation among disciplines but also cultivates students' interdisciplinary thinking and comprehensive analytical skills. At the same time, universities can set up interdisciplinary research funds to support teachers and students in conducting interdisciplinary research projects and to promote the development of interdisciplinary integration.

With the continuous advancement of AI technology, the research methods in the major of International Economics also need to be constantly innovated. Teachers and researchers should actively learn and apply AI technologies such as big data analytics and machine learning algorithms to improve research efficiency and quality. For example, in the study of international economic policies, big data analytics can be used to collect and analyze a large amount of economic data, thereby more accurately assessing policy effects and predicting economic trends. Meanwhile, universities can hold academic seminars and training courses, inviting experts in

the field of AI to exchange and guide on - campus, helping teachers and students to master the latest research methods and technologies. In addition, universities can collaborate with AI companies to establish joint laboratories and jointly undertake research projects to promote the innovation and application of research methods in the discipline.

To enhance the efficiency and quality of academic development, the major in International Economics needs to strengthen the integration and sharing of academic resources. Universities can establish digital libraries and academic resource platforms to integrate domestic and international academic resources and provide teachers and students with rich learning and research materials. For example, through cooperation with well - known international academic databases, universities can offer the latest international economic research papers, data sets, and analytical tools to their faculty and students. At the same time, universities can create platforms for sharing academic resources within the discipline, encouraging teachers and students to share teaching materials, research data, and research findings to promote knowledge sharing and communication within the discipline. Moreover, universities can establish cooperative relationships with other domestic and international universities and research institutions to conduct academic exchanges and share resources, enhancing the international influence and competitiveness of the discipline.

### 4.3. Curriculum Development Strategies

Teachers and researchers in the major of International Economics need to closely monitor international frontiers and promptly understand the latest applications and development trends of AI in the field of international economics. By participating in international academic conferences, reading top - tier international journals, and research reports, they can grasp the latest research findings and technological innovations and incorporate them into teaching and research. For example, teachers can introduce the latest cases of international economic policy analysis into the curriculum to demonstrate the application of AI technology in policy evaluation. At the same time, universities can set up funds to track international frontiers to support teachers and students in conducting relevant research projects and promote the international development of the discipline.

International cooperation and exchange are important ways to enhance the level of the major in International Economics. Universities should actively establish cooperative relationships with foreign universities and research institutions and carry out cooperative projects such as student exchanges, faculty visits, and joint research. For example, through cooperation with foreign universities, students can have the opportunity to study and exchange abroad, to understand different countries' education models and research methods in international economics. At the same time, universities can invite well - known foreign scholars to give lectures and conduct collaborative research on - campus, to promote the exchange and collision of academic ideas. In addition, universities can organize international academic seminars to provide teachers and students with opportunities to communicate with international peers and enhance the international influence and competitiveness of the discipline.

In the era of AI, the digital transformation of the major in International Economics is an inevitable trend. Universities should increase investment in digital teaching and research facilities, establish smart classrooms, virtual laboratories, and

online learning platforms, and provide teachers and students with advanced teaching and research tools. For example, through the construction of smart classrooms, teachers can use multimedia teaching equipment and AI - assisted teaching tools to improve teaching effectiveness and quality. At the same time, universities can develop online courses and virtual laboratories to offer students flexible learning methods and practical opportunities. Moreover, universities should encourage teachers and students to undertake digital research projects, utilize AI technology for data analysis and model construction, and promote the digital transformation of disciplinary research.

## 5. Conclusion

This study has thoroughly examined the mechanisms through which artificial intelligence (AI) impacts the development of the major in International Economics and has proposed corresponding strategies. By analyzing the role of AI in talent cultivation, academic development, and employment and career development within the major of International Economics, we have found that AI not only presents new opportunities but also poses new challenges for the major.

The major in International Economics is confronted with unprecedented opportunities and challenges in the era of AI. To address these challenges, this study has proposed strategies in talent cultivation, academic development, and major development. The implementation of these strategies will help the major in International Economics better adapt to the demands of the AI era, cultivate more innovative and practically - capable professionals, and drive the continuous development and innovation of the discipline. Future research can further explore specific application cases of AI in the major of International Economics, as well as how to better integrate AI technology into the teaching and research of International Economics, to provide more in - depth theoretical support and practical guidance for the development of the discipline.

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## References

- [1] Zhai, X., Chu, X., Chai, C. S., Jong, M. S. Y., Istenic, A., Spector, M., ... & Li, Y. (2021). A Review of Artificial Intelligence (AI) in Education from 2010 to 2020. *Complexity*, 2021(1), 8812542.
- [2] Zhang, K., & Aslan, A. B. (2021). AI technologies for education: Recent research & future directions. *Computers and education: Artificial intelligence*, 2, 100025.
- [3] Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European journal of education*, 57(4), 542-570.
- [4] Druga, S., Otero, N., & Ko, A. J. (2022, July). The landscape of teaching resources for ai education. In *Proceedings of the 27th ACM Conference on on Innovation and Technology in Computer Science Education Vol. 1* (pp. 96-102).
- [5] Tahiru, F. (2021). AI in education: A systematic literature review. *Journal of Cases on Information Technology (JCIT)*, 23(1), 1-20.

- [6] Guilherme, A. (2019). AI and education: the importance of teacher and student relations. *AI & society*, 34, 47-54.
- [7] Schiff, D. (2022). Education for AI, not AI for education: The role of education and ethics in national AI policy strategies. *International Journal of Artificial Intelligence in Education*, 32(3), 527-563.
- [8] Yang, X. (2019). Accelerated move for AI education in China. *ECNU Review of Education*, 2(3), 347-352.
- [9] Kim, J., Lee, H., & Cho, Y. H. (2022). Learning design to support student-AI collaboration: Perspectives of leading teachers for AI in education. *Education and information technologies*, 27(5), 6069-6104.
- [10] Perchik, J. D., Smith, A. D., Elkassem, A. A., Park, J. M., Rothenberg, S. A., Tanwar, M., ... & Sotoudeh, H. (2023). Artificial intelligence literacy: developing a multi-institutional infrastructure for AI education. *Academic radiology*, 30(7), 1472-1480.
- [11] Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). Artificial intelligence in education: Challenges and opportunities for sustainable development.
- [12] Lin, C. C., Huang, A. Y., & Lu, O. H. (2023). Artificial intelligence in intelligent tutoring systems toward sustainable education: a systematic review. *Smart learning environments*, 10(1), 41.