Construction and Exploration on Ideological and Political Education in Courses of Artificial Intelligence Profession

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Abstract

As a core course of talent training in the field of artificial intelligence, how to integrate ideological and political elements into machine vision has become an important course education task. The entry point of machine vision education mode and course ideological and political integration construction was systematically analyzed in the new-engineering background for enriching practice cases. The ideological and political education objectives and achievements of machine vision course were gradually explored, and then education measures suitable for talent training goals were established for improving the development of ideological and political courses in engineering school. In the processing of integrating ideological and political elements into courses, the detail education content combined with professional knowledge points, actual cases, ideological and political elements, and other dimensions was determined for improving literacy and ability of students, and then the ideological and political parts would guide students to establish correct world outlook, view of life and values during students learning course.

Keywords

Ideological and political education, Artificial intelligence, Machine vision.

1. Introduction

Machine vision is the core course of artificial intelligence majors. In the introduction to machine vision, combined with the competition between countries and the development trend of the field of artificial intelligence, the key role and huge impact of machine vision in the field of artificial intelligence are discussed, and students are shown the prospects of my country in the field of machine vision in recent years. Sexual research and breakthrough progress, such as face detection, face payment, brain-computer science, smart city, smart medical treatment and unmanned driving, etc., convey to students the country determination to build a powerful country with artificial intelligence, and improve students' patriotic enthusiasm and nationality pride.

In terms of aerospace, China Chang project for lunar exploration advocates patriotism, strengthens national pride, and encourages students to study hard and work hard. The development of society and the nation depends on the joint efforts of all members, and happiness is achieved through struggle. The development of machine vision and artificial intelligence is also not smooth sailing, and it is inseparable from the long-term and unremitting efforts of many practitioners. In addition, scientific and technological progress can benefit society, but improper use can also bring negative effects or even disasters, such as fraud and fraud through machine vision. Guide students to look at these issues correctly and establish a correct outlook on life, values and the methodology of dialectical materialism.

With the outbreak of the epidemic, in the fight against corona virus disease, machine vision, artificial intelligence, big data and other technologies have played a role in epidemic analysis, virus traceability, prevention and treatment, and resource allocation. The use of drones in epidemic prevention and control has further promoted the process of technology serving the society. From the perspective of personnel deployment, the use of drones has greatly reduced the labor cost in epidemic prevention and control, and also reduced unnecessary flow of people, especially to avoid frequent movement of high-risk groups such as medical staff and medical material transporters, thereby reducing the risk of virus infection. probability of transmission.

Machine vision technology has provided solid support for overcoming the epidemic, guiding students to more deeply understand that machine vision not only exists in theoretical research, but also truly serves ordinary people's homes. It is subtly affecting and improving our quality of life, apply what you have learned, and use your professional knowledge to better serve the society. At the same time, it is also necessary to point out to students that although machine vision has played a major role in various fields in our country, there are still many unsolved problems waiting for students to study, guide students to know their own sense of responsibility of the times and contribute to the country's difficult problems. strength. Enhance students' awareness of crisis and recognize their own shortcomings. Strengthen the sense of responsibility, learn machine vision algorithms well, undertake the mission of the era of artificial intelligence development strategy, and enhance students' patriotic enthusiasm and national pride.

Many scholars have done a lot of research on curriculum ideology and politics [1-6]. In 2018, the paradigm of ideological and political curriculum three meanings and three styles model won the national education achievement award for the first time. Wang et al. [7] proposed a curriculum ideological and political education design based on the three meanings and three styles model. The curriculum objectives are constructed around the core literacy of distribution talents, the ideological and political elements reflecting the curriculum characteristics and value ideas are deeply excavated, and the ideological and political elements are integrated into the education process in effective ways and education methods to achieve the goal of curriculum education.

Education Taoism means that teachers should not only teach students how to simply learn knowledge, but also let students know how to learn to grasp the laws of development of nature and society and abide by the norms of society and life. Integrating morality into education means that teachers subtly cultivate students' good morals and establish correct values in education. Education through entertainment is to require teachers to teach students according to their aptitude and carry out happy education that stimulates students' interest in learning, including situational and heuristic methods.

The finishing touch refers to the strengthening of ideological and political elements such as socialist core values and materialist dialectics when education knowledge points and skills. Drawing the dragon refers to the learning of knowledge points and skills, and finishing refers to highlighting the ideological and political elements contained in the course knowledge and skills and realizing value leadership. Thematic embedding means that teachers do not break the original education structure, and carefully embed a certain topic of ideology and politics organically, so as to deepen students' understanding of the course content and strengthen students' value identification. Elemental combination is the combination of three different education elements, namely knowledge points, skill points, and ideological and political points, in the form of atomic combination, and then produces a natural result of integration into one.

2. Education Goals

In the past two years, the ideological and political construction of courses, especially the construction of ideological and political courses for science and engineering majors, has become the focus and difficulty of curriculum construction in colleges and universities. Many science and engineering teachers focus on imparting professional knowledge and pay less attention to ideological and political education for students. Machine vision is the core course of artificial intelligence major. On the basis of deeply grasping the ideological and political connotation and value of the course, in order to play the role of machine vision as the main channel of classroom education, it is necessary to explore and realize the education that integrates ideological and political and curriculum target [8-9].

The education objectives mainly include the following two aspects:

Taking educating people as the core, actively injecting ideological and political genes into all aspects of the course, exploring a blended education model and method covering the entire course, and imparting professional knowledge while carrying the role of cultivating students' world outlook, outlook on life, and values.

Taking the new engineering as the background, combining the status quo and development of related fields at home and abroad, combining theory with practice, to improve students' ability to solve practical engineering problems in the field of machine vision, cultivate students' interest in scientific research and cultivate students' home and country. Feelings and global vision, cultivate new engineers with both ability and character.

3. Education Measures

In the ideological and political exploration and practice of the machine vision course, the course group that belong to closely focuses on the education objectives, makes full use of the course carrier, and based on the education content, carries out blended education through chaoxing learning pass, and uses a diversified course evaluation system. For feedback, integrate a variety of education resources, and strive to build a pattern of education from multiple levels and angles [10].

Based on the professional knowledge of machine vision, the course group integrates ideological and political elements in various ways, combines ideological and political elements online and offline, carries out professional education combining ideological and political elements with cases, and at the same time pays attention to the experimental practice link, so as to truly implement ideological and political education in actual. Through this collaborative education method and means, the course ideology and politics are naturally integrated into the whole process of self-study before class, lecture in class, and practice after class. The main education measures include three aspects as follow.

3.1. Education Team

Strengthen and improve the ideological and political literacy of the members of the education team, strengthen the education concept of the main body of teachers, be the first responsible person for classroom education, make the curriculum and ideological and political theory go in the same direction, and form a synergistic effect.

3.2. In Terms of Education Content

Enrich the education content, explore the ideas, philosophy and spirit contained in professional knowledge, start from the fit point between ideological and political content and professional knowledge, carefully design education cases, do not use rhetoric, and integrate ideological and political elements moisturizing things without sound is integrated into the process of

knowledge imparting, transforming classroom education oriented to knowledge and skills into multi-dimensional classroom education that integrates ideology and politics.

3.3.   Education Assessment

Take professional education content as the carrier, establish a reasonable assessment system, focus on process assessment, and ensure the education results of ideological and political courses. Incorporate ideological and political elements into course assessment, and establish a supporting assessment and evaluation system, such as incorporating experiments, homework, classroom interaction, and final design related to ideological and political education into the general assessment. For example, while using chaoxing learning pass to interact with teachers and students, check the education results at any time, and cultivate students' style of concentration and dedication. In the usual homework assessment, students are required not to plagiarize, and students are trained to be honest and trustworthy.

4. Education Content

Machine vision is a course that includes programming content. To realize various processing algorithms through programming, it is necessary to follow the programming specifications and strictly reflect the algorithm principles to obtain correct results. It is linked to school discipline, social rules and national laws and regulations, so that students realize that they are members of the school and society, and the school and society are the environment in which we live. Respecting the rules is the premise of maintaining a good social order. Communication should be honest and friendly, so as to subtly cultivate a sense of rules and a sense of social responsibility.

The main knowledge points of machine vision and their corresponding ideological and political elements as follow.

The knowledge point image format and compression standards correspond to ideological and political elements that need to be followed in the direction of data storage and communication. If you don't follow the rules, you can't form a square. Educating students to abide by the rules and regulations of the school in life, to abide by laws and regulations, and to lead by example.

The knowledge point Huffman coding corresponds to the ideological and political elements as a classic variable-length coding method, and the resources are used rationally. Guide students to be good at analyzing problems and thinking about how to play a greater role under limited conditions.

The Fourier transform of the knowledge point corresponds to the ideological and political elements. It can better solve the problem from a different angle. It is necessary to educate students to learn the law in their learning, and be good at learning from and learning from experience.

The knowledge point histogram equalization corresponds to the ideological and political element, which is to accumulate the pixels with a small number and similar gray levels and transform them into the same gray level. Let the accumulation of knowledge change from quantitative to qualitative. Educating students to have the spirit of gathering sand into a tower in their learning, making a little progress every day, and adding up, they will make a lot of progress.

Knowledge point spatial domain filtering and frequency domain filtering correspond to ideological and political elements, which can achieve the same processing results from different angles. Dialectically deal with contradictions in life. There are different solutions to the same problem. When encountering a problem, do not go to the horns, and treat the life environment dialectically.

The design of the knowledge point graph filter corresponds to the ideological and political elements to determine the filter parameters for the image characteristics. Educating students to pay attention to observation in real life, cultivate the ability to find problems and solve problems well.

The knowledge point threshold segmentation corresponds to the influence of improper selection of ideological and political elements on the segmentation results. Reasonably grasp the proportions, scales, boundaries and standards.

5. Education Achievements

In the ideological and political exploration and practice of machine vision courses, we always focus on students, and strive to achieve the effect of educating people with knowledge, ability and values. The education results are mainly reflected in the following three aspects:

5.1. Knowledge Learning

On the premise of covering the syllabus, the education team deeply excavated the machine vision knowledge system and the ideological and political elements contained in each knowledge point, accurately grasped the internal logic between knowledge transfer and value guidance, and activated the ideological and political elements. In the educating link, students learn professional knowledge and lay a solid foundation of values by connecting cases with practice.

5.2. Ability Development

Machine vision is a compulsory professional course for artificial intelligence majors, and students have entered the professional course learning stage. The machine vision course has been expanded from pure professional knowledge learning to professional education based on ideological and political education. While improving students' professional quality and ability, it has prepared a wealth of ability reserves for students' subsequent study and life.

5.3. Establishment of Values

In the process of ideological and political practice in machine vision courses, students are guided to learn professional skills based on national conditions, closely link personal development with the development of the country and the nation, and establish correct values. By exploring the value, spirit and ideas contained in professional knowledge, the course group integrates ideological and political elements into the whole education process, and realizes the dialectical unity of course ideological and political and professional curriculum construction.

6. Conclusion

Taking the artificial Intelligence core course machine vision course as an example, this paper conducts exploration and practical research on the ideology and politics of the artificial Intelligence professional course. A detailed study is carried out from the education objectives, education measures, education content and education results. Among them, the education measures include three aspects: education team, education content and education assessment. The education content fully combines the ideological and political elements with the knowledge points of the machine vision course, and integrates the course ideology and politics into the curriculum. The education achievements are mainly reflected in three aspects: knowledge learning, ability training and value establishment.

Acknowledgments

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