

# Research on Practical Teaching System of Data Science and Big Data Technology Specialty Based on Application-Oriented Talent Training

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**Abstract:** As the major of data science and big data technology has gradually become the most popular major in China, how to carry out professional construction has become an urgent problem for colleges and universities. According to China's excellent strategy of vigorously developing artificial intelligence technology and digital economy to further create a digital power, the major has also been further improved. According to the specific professional characteristics and the talent training of the specialty, this paper puts forward the corresponding construction strategies by analyzing the internal relations of relevant fields, and designs the corresponding application-oriented talent training mode in the specific talent application, so as to train students' ability to effectively carry out professional construction practice.

**Keywords:** Applied talent training; Data science; Major in big data technology

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## Introduction:

At present, the major of data science and big data technology is also developing at an amazing speed. This major is a new interdisciplinary application development discipline based on the combination of hardware and software and computing technology, focusing on the characteristics of scientific data management and taking big data analysis as the main idea. In the process of talent training, the major pays attention to improving students' innovative application ability in life through practical teaching.

## 1. Introduction to the professional training of data science and big data technology in the training of Applied Talents

At present, due to the shortage of innovative professional information talent resources, the teaching level of teachers in major colleges and universities is low. How to cultivate teachers' ability and fully improve their overall new skills is the primary problem to be solved in the specific construction process of this major. Many researchers have specifically discussed the foundation of applied talent training and the construction and training ideas of related majors, and some scholars have constructed the corresponding integrated curriculum system. By specifically analyzing the theoretical and innovative practical needs of the training of big data professionals, this paper constructs a curriculum system that can truly train students to apply big data to real life, and on this basis, uses flipped classroom or information-based teaching to improve teaching.

In the process of research, we found that for some students who are weak in big data learning, there are not enough equipment to guarantee their teaching resources, which can not fully improve their learning effect. It can be seen that there are still some problems in the course system construction of data science and big data technology under the background of applied talent training. We should carry out specific analysis according to the characteristics of disciplines and specialties, and carry out specific research on the training mode of applied talents.

## 2. Specific analysis of data science and big data technology

This major will involve many fields in the teaching process. It is a compound major combining computer science and technology, software technology, statistics and other majors.

Many data related majors have long been mature, but in this process, due to the more rapid development of the Internet era, each industry has a huge amount of data and a complex data system. From the perspective of the original data acquisition technology, it can not fully use the development requirements of the current big data era. At the same time, it also puts forward higher challenges for the traditional digital information discipline. The emergence of data science and big data technology can effectively solve these problems. By exploring the internal laws of data in the process of change and combining the advantages of other disciplines, it puts forward higher requirements for students' professional skills. Teachers focus on cultivating students' data analysis skills in the learning process, and can apply professional knowledge to solve the current needs of application development in all walks of life.

## 3. Elements of professional construction of data science and big data technology

During the development of this technical specialty, we should design specific talent training objectives, integrate teacher resources and school running resources through the specific understanding of professional courses, and establish a teaching system with college students as the professional development center.

First of all, at the knowledge level, we should effectively improve students' professional ability to apply knowledge and to solve problems in real life by transmitting specific project knowledge and big data knowledge to students.

Secondly, cultivate students' communication ability and project operation ability with the team and society in activities. Secondly,

cultivate students' communication ability and project operation ability with the team and society in activities. Ability to analyze data and develop data applications. Let students fully understand the principle and process of analysis in the process of data development, and master big data application products and data analysis algorithms.

In addition, the direction of big data intelligence requires teachers to fully cultivate students' basic skills in artificial intelligence in Colleges and universities. Promote students' in-depth study of relevant knowledge in the field of machine and in-depth study in the later stage. This training direction is mainly aimed at the post needs of some industries in the process of data R & D. In this process, teachers should not only cultivate students' basic skills in course learning, but also choose some elective courses in combination with students' own interest characteristics or professional expertise.

#### **4. Conclusion**

Under the background of the vigorous development of applied talent training, the majors of data science and big data technology have developed rapidly. At the same time, big data technology has also been the focus of the education sector. This paper introduces the background and future development direction of the major, as well as how teachers should improve their professional ability and training level in this stage, and find out how to improve teaching methods in the development of innovative major from different angles. College teachers should also analyze the advantages and disadvantages of the era of big data application from different aspects, find a teaching breakthrough to bring effective teaching models to students, and tap their learning potential by considering their own learning strengths.

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