A Brief Analysis of the Key Technologies and Applications of Educational Data

MICANS INFOTECH

ABSTRACT

▸ With the rapid development of the Internet and communication technology, online education has drawn more and more attention, online learning platforms, on the other hand, store massive learner behavioral data and educational data.

▸ How to effectively analyze and utilize the data to improve the quality of online education has become a key issue urgently needed to be solved in the field of big data in education(BDE), educational data mining(EDM) is exactly an effective and practical method and means of applying BDE.

▸ Therefore, EDM is an important academic research hotspot in the field of EDM.

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- Firstly, the paper introduces the basic concepts of BDE, EDM and online learning platform, and then elaborates on the process of how educational data mining transforms raw data into knowledge.

- Finally, the key technologies of data mining are classified according to their uses, and gives its application in online education scene.

- The paper can provide some guidance for the research and application of educational data mining based on online education.

EXISTING SYSTEM

- At present, the most difficult part of the traditional education mode lies in the collection and analysis of data.

- The online education platform stores vast amounts of data that are real-time, monitorable and quantifiable, including learner behavior data and the educational data of the platform.

- However, the data itself is only data, did not intuitively show any valuable knowledge,

- how to use these educational data to transform these data into information and knowledge and provide services for educational decision making,

- teaching optimization and academic improvement is the value of BDE.

- The difficulties of processing technology of big data mainly focus on the complexity of data, and

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- EDM is an important technical means to realize the application of BDE.

- Through the analysis and mining of the relevant data in the online learning platforms, the relationship between learners' behaviors and their inner logical relationships are found, and the teaching plan is better formulated based on it.

- However, big data is in a nascent stage, for educators, the concept of big data and its applications are vague

PROPOSED SYSTEM

- the paper elaborates the related concepts of BDE, EDM and online education platform, so that educators have a deeper understanding of the relationship and development of those concepts.

- Based on this, this paper mainly includes two aspects: educational data mining process and key mining technology classification:

- the educational data mining process mainly explains how to extract raw data from the database to provide value for education decision-makers and learners-key mining technology classification is to analyze the technologies used in educational data mining process,

- the paper not only categorizes these technologies but also attempts to explain the differences and connections between them, namely, when different technologies should be applied to a scenario. Finally, we put forward some prospects of EDM in online education

HARDWARE REQUIREMENTS

- Processor – Pentium –III
- Speed – 1.1 Ghz
- RAM – 256 MB(min)
- Hard Disk – 20 GB
- Floppy Drive – 1.44 MB
- Key Board – Standard Windows Keyboard
- Mouse – Two or Three Button Mouse
- Monitor – SVGA

SOFTWARE REQUIREMENTS

- Operating System : Windows 8
- Front End : Java /DOTNET
- Database : Mysql/HEIDISQL

CONCLUSION

- Big data is of revolutionary significance to online education. With such huge and complicated data on the online learning platforms,

- it is particularly important to study and apply these BDE. From the perspective of academic research and technology application, the paper elaborates the basic concepts of BDE, EDM and online education, the detailed process of educational data mining,

- the classification of educational data mining technologies, and the need to pay attention in the process of mining. For example, different algorithms are selected according to different application scenarios, and examples of specific scenarios used by some key technologies are given.

- The purpose of this paper is to enable other researchers or educators to gain a better understanding of the ways in which educational data mining is used in the education of big data and better utilize educational data mining techniques to improve the quality of online education.

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- The development of big data has brought many opportunities for online education, the emergence of new mining technologies will certainly provide better methods and means for the application of EDM in the field of online education. Using these new technologies will also lead to more scientific analysis and higher-value knowledge, and better service for online education.

- However, care must be taken to address the managerial, ethical and technical challenges and limitations of educational data mining, all of which need to further strengthen the research on the educational data mining of online education.

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