

The Necessity and Public Concerns about Privacy in Big Data and Data Mining in Education

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Keywords—Big data, Data mining, Privacy, Education, Public Opinion

Introduction

Along with the advances in technology, Big data and Data mining has gained and received more attention due to the implementation and capability of the technology in many fields. Big data and Data mining provides a lot of methods and techniques that can be implemented and used to process data. With the use of Big data and Data mining in the field of education, analysis of data in a large scale can be produced in order to help improve said field. More specific topic that has been chosen for this research paper is how the method, techniques and implementations have a potential to produce concerns about privacy issues and the public opinion of said concerns that can surface. From the application of Big data and Data mining itself, there has been research that uses Data mining to predict the percentage of dropout cases along with the factors that may contribute to the dropout case [1]. For the matter of privacy of Data mining and Big data, in a paper by Reidenberg, J. R., & Schaub, F. (2018) [2], policies to help the concerns and issues of privacy in the usage of Big data and Data mining is explored. This research paper aims to explore the public opinion regarding the issues of privacy that occurs in the application/usage of Big data and Data mining. In this paper we will use the quantitative method of survey(s) to gain the opinions regarding the privacy concerns of using Big data and Data mining in the field of education.

I. LITERATURE REVIEW

The use of Big data and Data mining have been common in a lot of fields, where Big data and Data mining can be used to

process and extract hidden information from the data on a large scale. With many uses of Data mining and Big data where there is a lot of technique, methods, and algorithms, which leads to the concern of security and privacy.

Big data not only used for processing data, but also can be used to obtain a teaching style for educators as paper from Ali, I. (2020) [3] said. Data mining also can be used to obtain hidden information like the cause of a result as the paper from Abu-Oda, G. S., & El-Halees, A. M. (2015) [1] said. Where data mining can be applied to get a reason why a student gets drop out and to predict dropout by using Decision Tree (DT) and Naive Bayes (NB). A paper by Asril, E., Wiza, F., & Taslim (2016) said that this technique can be used to search a pattern to calculate the competence of a student [4]. [2] The use of Big data also causes privacy concerns like the InBloom case that have been discussed in paper from Reidenberg, J. R., & Schaub, F. (2018).

From the paper we have reviewed, we found the use of Big data and Data mining bring us an advantage in education, not only bring an advantage but it will cause a problem and privacy concern.

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