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# Intelligence Tool for Campus using Apriori Algorithm and K-Means Clustering

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***Abstract:*** ***This campus portal is for helping the colleges to navigate the increasingly challenging landscape in higher education. This web portal can give data concerning the various pool campus or drives which are going to be held by colleges or companies. Here attribute keyword search (ABKS) method is used so that the authorized users can generate some search tokens and these search tokens can be used to extract all the ciphertexts which contains the corresponding keyword. It provides a large information regarding the campus pools, its location, time and date, criteria etc. Job matching that profits job seekers, staff and employers is incredibly important nowadays. In this work, Apriori Algorithm & K-means Algorithm is used to predict a student's educational details which includes percentage, different skills, extra-curricular activities.***

***Keywords: Web-portal, Attribute Keyword Search (ABKS), ciphertexts, criteria, job matching, Apriori Algorithm, K-means Clustering.***

## I. INTRODUCTION

Due to lack of information students and TPO are not able to get enough Information about the Placement Drives which are conducted In other Colleges (Off Campus). Using this website we will be able to retrieve placement Information from other College Websites. To introduce intelligence tool for campus within which the training and placement cell can retrieve information about recruitment on the basis of keywords concerning enlisting from varied websites like academic sites, company sites etc. To match the students database according to companies criteria and send notification to eligible students. Training and Placement Office(TPO) assists students to develop their academic and career interests. This will maintain database of companies and establish strategic links for campus recruitment. Here the TPO can search for placement alerts by using keyword search method. It identifies the needs and expectations of the companies to assist them in recruiting most suitable candidates. For keyword searching and to identify suitable candidates according to the given criteria by using K-means Algorithm. To send links to selected candidates through emails and messages for registration so that they can apply for job. It uses a trie data structure to index the keyword up to a precise optimum level. While searching a keyword, this index is employed to get two offset values, in constant quantity of time for each keyword, among that the keyword may lie. Using the two offsets, a binary search is initiated to find the keyword within the list, and hence the web pages containing the keyword. research shows that subsequently increasing the amount of trie can increase the performance of retrieval however additionally increase the required memory.The data in any given educational institution is growing rapidly. There is a need to transform this data into useful information and knowledge; hence we make use of data mining. Data mining is the process of extracting hidden, unknown and potentially useful information and patterns from databases, data warehouses or other such data repositories. Educational data mining is the area of science where various methods are being developed for making discoveries within data. This data is obtained from an educational background. These methods provide an insight into a student's behavioural patterns and the environment in which they learn. Data mining can be applied to educational databases to identify undesirable student behaviour which was previously unknown, Here we are storing all the information of the students, where student can register their information like academic information like Year, Branch, and Percentage etc. This information is store in Database where TPO can access the details information and can classified it as per the company requirement and TPO can also send the mails to the student in advance and the one day before the campus through the register text messages and mail as well.

1) *Apriori Algorithm:* The Apriori algorithm is a traditional data mining algorithm that is used to mine association rules from the given data. The aim is to extract a set of strong association rules of the form X => Y i.e. items that satisfy condition X are most likely to satisfy Y also. For example, in our case, we may find the association "if a student scores between 80-100 and if his term work grade is A, practical marks between 21-30 and his attendance is high then his academic profile is most likely to be good".
2) *K-Means Clustering:* Given a database of n objects and k is the number of clusters to form a partitioning algorithm that organizes the objects into k partitions where $k \leq n$ and each partition represents a cluster. The main reason for forming clusters

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is, so that all the objects in a cluster are similar to each other, whereas objects of other clusters are dissimilar in terms of database attributes. The K-means does exactly this function. It separates clusters into a set of n objects where the inter cluster similarity is low and the intra cluster similarity is high. Cluster similarity is measured based on the mean value of the objects in the cluster.

## II. LITERATURE SURVEY

A Keyword Searching Algorithm For Search Engines, Innovations in Information Technologies(IIT) ,2007: It uses a trie data structure to index the keyword up to a certain optimum level. Trie data structure.Binary Search Method. One of the major techniques used for retrieval of keyword from the list of large number of keywords, and hence retrieval of web pages containing the keyword. A key Policy Attribute based Temporary keyword search scheme for secure cloud storage ,IEEE -2018: To generate search tokens to extract all cipher texts which contain the corresponding keyword Key policy attribute based Temporary keyword search(KP-ABKS). It is provably secure in the random oracle model A survey of job recommender systems, International Journal of the Physical Sciences, 2012 This system helps the user in finding items that match their personal interest. Collaborative filtering approach. To build a new recommendation approach and test with real data for employee and staffing data from large companies. An Improved Deep Neural Network Model for Job Matching, International conference on artificial Intelligence & Big data,2018: A deep neural network model is used to predict an employee's future career details Dataset Description feature extraction method DNN model architecture. To study additional knowledge from unlabeled web text & personalizes information. Google Cloud Messaging (GCM): An Evaluation, avuz Selim Yilmaz Bahadir Ismail Aydin Murat Demirbas, 2014 : Use of GCM to send messages or alerts to users .This design lets CrowdReply use the connection only when there is a new question, and it delegates the data pushing job to GCM in order to resolve any scalability issues CrowdReply might encounter. CrowdReply app (timing performance of GCM). As GCM does not conforms messages send to all so use we will investigate other push notification options available for Android including Extensible Messaging & Presence Protocol (XMPP). Notification System to Students using an Android Application, May H. Riadh Assistant Prof Zarqa University Jordan AlZarqa , April 2016: Achieve high and quick organize between instructor and students, save time, effort by connecting Android application to the educational database of the university using latest technologies . Useful for Android Application. Develop the application, by including the IOS mobile to the application so all type of mobile phones will be included.

## III. COMPARISON OF EXISTING PREDICTION TECHNIQUES

The table below shows the discussed applications, algorithms & their purpose, parameters used for achieving prediction in each application.

Table 1: Applications & their Prediction Techniques

| SR.No | Prediction Techniques | Application | Methodology | Remark( future Scope & Conclusion) |
|---|---|---|---|---|
| 1. | Keyword Searching Algorithm | Trie data structure.Binary Search Method | It uses a trie data structure to index the keyword up to a certain optimum level. | One of the major techniques used for retrieval of keyword from the list of large number of keywords, and hence retrieval of web pages containing the keyword. |
| 2. | Key Policy Attribute based Temporary keyword search | Key policy attribute based Temporary keyword search(KP-ABKS) | Key policy attribute based Temporary keyword search(KP-ABKS) | It is provably secure in the random oracle model |
| 3. | Job recommender system | Collaborative filtering approach | Collaborative filtering approach | To build a new recommendation approach and test with real data for employee and staffing data from large companies |
| 4. | An Improved Deep Neural Network Model for Job Matching, International conference on artificial Intelligence & Big data,2018 | Dataset Description feature extraction method DNN model architecture | Dataset Description feature extraction method DNN model architecture | To study additional knowledge from unlabeled web text & personalizes information |
| 5. | Google Cloud Messaging (GCM) | CrowdReply app. (timing performance of GCM) | CrowdReply app. (timing performance of GCM) | As GCM does not conforms messages send to all so use we will investigate other push notification options available for Android including Extensible Messaging & Presence Protocol (XMPP) |
| 6. | Notification System to Students using an Android Application | Android Application | Android Application | Develop the application, by including the IOS mobile to the application so all type of mobile phones will be included. |

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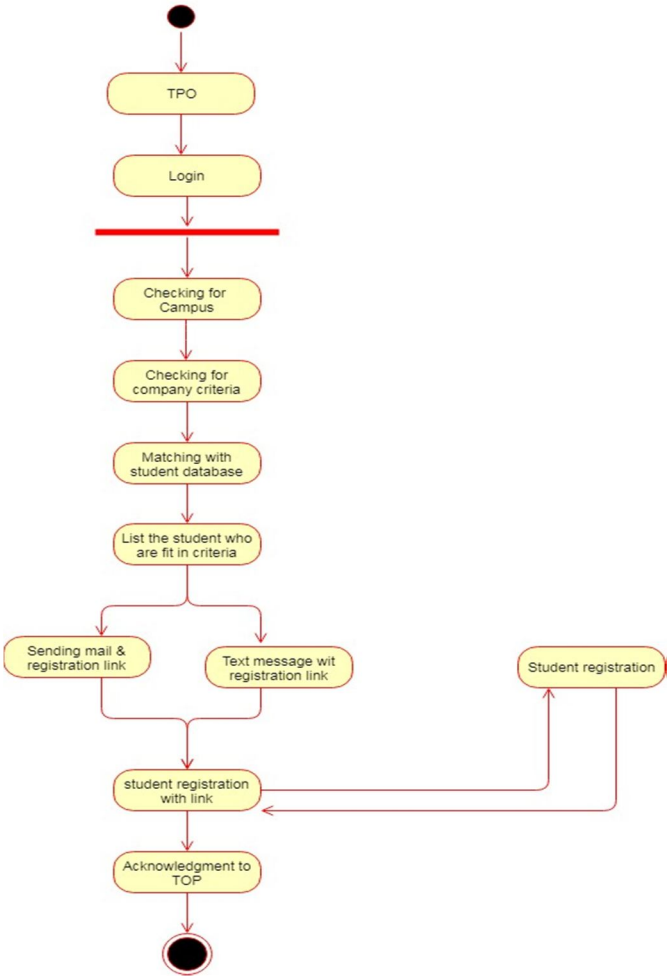
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## IV. EXISTING SYSTEM

The existing system describes the features of the previous working model and their drawback. Existing system does all process manually. Placement officers register the information of students. If any modifications or updates are required in the profile of any student, it has to be done manually. This is tedious and time consuming, lack of security of data, took more man power, consumes large volume of paper and space. This process is so difficult when number of user's increases.

## V. PROPOSED SYSTEM

The aim of the proposed system is to develop a system with improved facilities. The proposed system can overcome all the limitation of the existing system. Such as student's information is maintained in the database, it gives more security to data, ensures data accuracy, reduces paper work and save time, only eligible students get chance, it makes information flow efficient and paves way for easy report generation, reduce the space. Proposed system is cost effective.




## VI. CONCLUSION

This project will be useful for several students as well as the training and placement office to search different jobs. The TPO can decide which students are eligible for the job according to criteria ..

Thus, based on the results of Apriority algorithm and K -means clustering on the academic record file, we can deduce the important role that data mining can play in the field of education and teaching. It would be very difficult to manually go through the huge set of academic records to identify the student trends and behaviour and the pattern in which they learn. Instead, if we make use of data mining techniques on the large amount of academic record, we can easily group the students, identify hidden patterns about their learning styles, find undesirable student behaviour and perform student profiling. In this manner, data mining can certainly be an important tool and part of technologically advanced educational techniques.

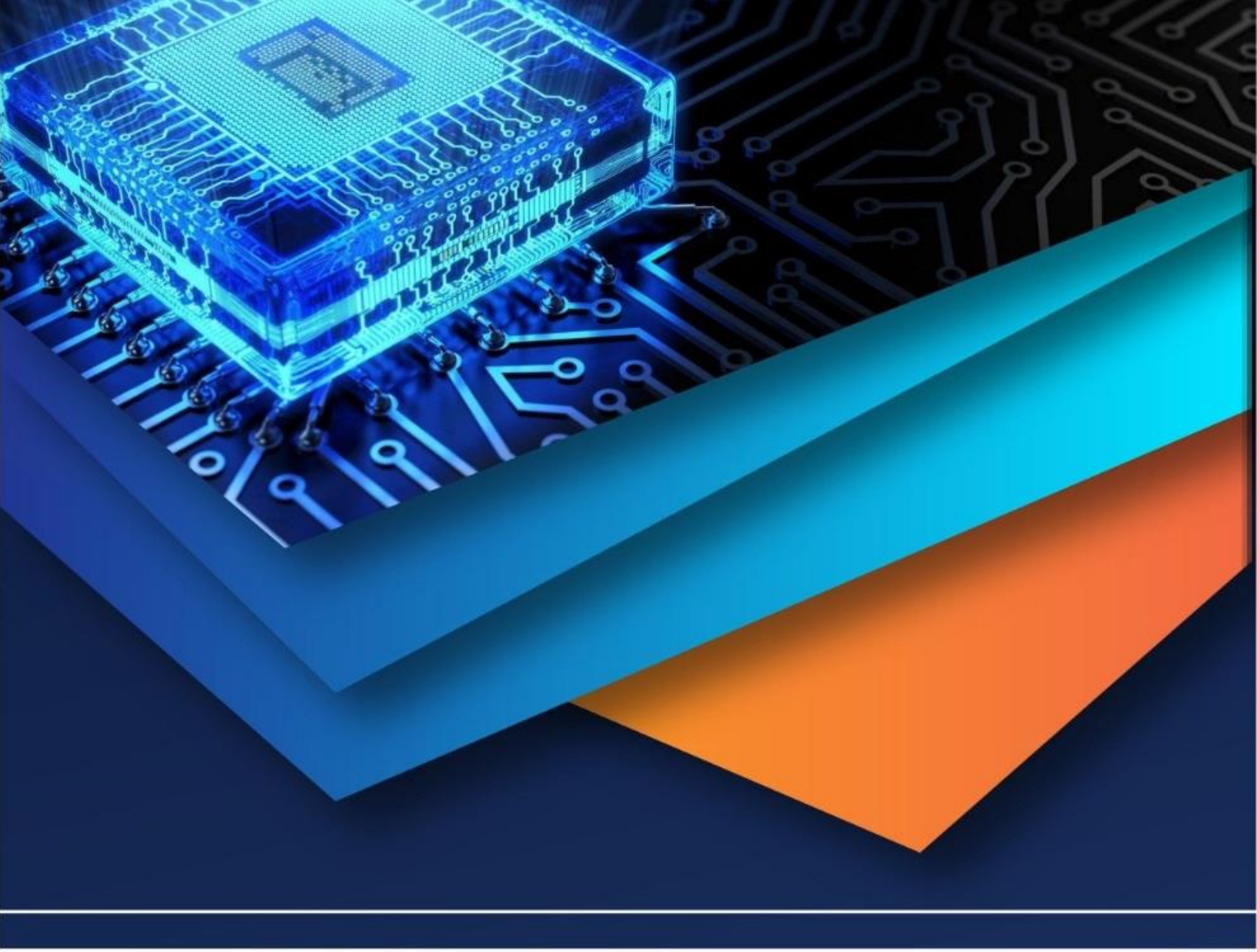
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