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Efficient Ranked Multi-Keyword Search using Machine Learning Algorithms

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ABSTRACT

Now days classification is the process of classifying the text documents based on words, phrases and word combinations with respect to set of predefined categories. Data classification has many applications such as mail routing, email filtering, content classification, news monitoring and narrow-casting. Keywords are extracted from documents to classify the documents. Keywords are subset of words that contains the most important information about the content of the document. Keyword extraction is a process used to take out the important keywords from documents. In this proposed system keywords are extracted from documents using TF-IDF and naïve bays algorithm. TF-IDF algorithm is used to select the candidate words. The words which have highest similarity are taken as keywords. The experiment has been done using Naive Bayes algorithms and its performance is analyzed based on machine learning.

Keywords:- Keyword based search, machine learning, naïve bayes algorithm, TF-IDF algorithm, Ranking.

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I. INTRODUCTION

Over the last decade, the number of digital documents available for various purposes has grown enormously with the increasing availability of high capacity storage hardware and powerful computing platforms. The vivid increase of documents demands effectual organizing and retrieval methods mainly for large documents. Text classification is one of the key techniques in text mining to categorize the documents in a supervised manner. The processing of text classification involves two main problems are the extraction of feature terms that become effective keywords in the training phase and then the actual classification of the document using these feature terms in the test phase. Text classification can be used for document filtering and routing to topic specific processing mechanisms such as information extraction and machine translation. Various methods are used for document classification such as Naive Bayes, Support Vector Machine, K-Nearest Neighbor, Fuzzy C-means, Neural Networks, Decision trees and Rule based learning algorithms out sourcing.

PROBLEM STATEMENT

To develop an efficient system to retrieve given data in response to user with ranking system and to provide search file based on keywords with ranked result by using machine learning algorithm.

II. LITERATURE SURVEY

A. Ghanbarpour, H. Naderi [1] In this paper, an attribute-specific ranking method is proposed based on language models to rank candidate answers according to their semantic information up to the attribute level. This method scores answers using a model enriched with attribute-specific preferences and integrating both the structure and content of answers. The proposed model is directly estimated on the sub-graphs (answers) and is defined such

that it can preserve the local importance of keywords in nodes.

Karl Severin, Swapna S. Gokhale Aldo Dagnino. [2] In this scheme supporting efficient ranked keyword search for achieving effective utilization of remotely stored encrypted data. Inside this structure, we use a feasible once-over to in addition enhance the intrigue suitability, and get the ostensibly debilitated constrain framework to cover get the chance to instance of the demand client. Security examination shows that our course of action can accomplish gathering of records and report, trapdoor confirmation, trapdoor unlinkability, and hiding access instance of the intrigue client.

Vidhya.K.A, G.Aghila [3] showed a safe multi-catchphrase arranged look design over encoded cloud information, which meanwhile underpins dynamic fortify operations like destruction and development of reports. Naive Bayes works well for the data characteristics with certain deterministic or almost deterministic dependencies that is low entropy distribution, however the fact is that algorithm work well even when the independence assumption is violated.

Pawar Supriya, Dr. S. A. Ubale [4] proposed a gainful multi-catchphrase break even with word ask for over blended cloud information by recovering best k scored records. The vector space model and TFIDF demonstrate are utilized to gather record and question time. The KNN calculation used to scramble record and demand vectors and develop a unique tree called Balanced M-way Search (BMS) Tree for asking for and propose a Depth First Search Technique (DFST) figuring to complete reasonable multi-catchphrase proportionate word arranged search for. The effectiveness and precision of DFST estimation are addressed with a case, BMS tree, it takes sub-straight time multifaceted nature.

Alexander Ratner, Christopher De Sa, Sen Wu, Daniel Selsam, Christopher Ré [5] It has proposed a paradigm for the programmatic creation of training sets called data programming in which users express weak supervision strategies ,which are programs that label subsets of the data, but that are noisy and may conflict, which gives high quality results.. This course of action handles gathering sort structure to part the report record into D Domains and R Ranges. The Domain depends on upon the length of the watchword; the Range parts inside the space in context of the fundamental letter of the catchphrase. An intelligent model is utilized to search for over the encoded recorded watchword that takes out the data spillage.

III. PROPOSED METHODOLOGY

A. Architecture

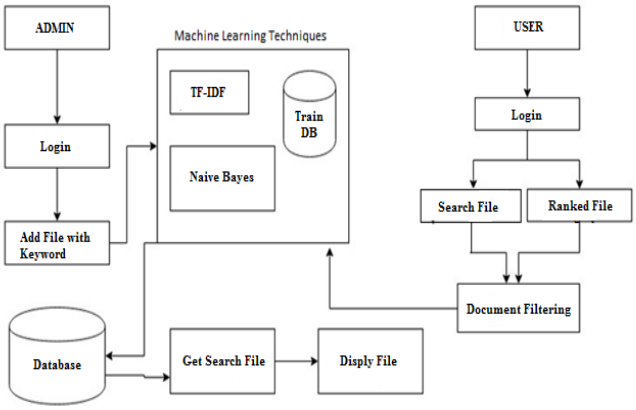

Fig 1. System architecture

User

This module helps clients to enter their query keyword to get the most important documents from set of uploaded documents. This module recovers the documents from cloud which coordinates the query keyword.

Data Owner

After expansion of keywords the data owner assist data with multiple keywords the document utilizing based on machine learning Algorithm and after that upload the document to store the database.

Ranked Results

Clients/user can download the resultant arrangement of documents just if he/she is approved client who has allowed consent from data owner to download specific document. Here user get the ranked and mostly search records from the ranking system to get exactly data to the all user.

B. Algorithm:

The proposed architecture of four modules: user interface, log pre-processing, Feature Clustering using Naïve Bayes Classification, Training and testing using support vector machine for more accurate categorization of opinion. This system can solve irrelevant data and more accuracy by associating Modified K means with Naïve Bayes Classification algorithm.

A. Naive Bayes (NB): Naive Bayes Classifier uses Bayes Theorem, which finds the probability of an event given the probability of another event that has already occurred. Naive Bayes classifier performs extremely well for problems which are linearly separable and even for problems which are non-linearly separable it performs reasonably well.

TF-IDF Algorithm:

TF_IDF stands for Term frequency-inverse document frequency. The TF-IDF weight is a weight often used in

information retrieval and text mining. Variations of the TF-IDF weighting scheme are often used by search engines in scoring and ranking a document's relevance given a query. This weight is a statistical measure used to evaluate how important a word is to a document in a collection or corpus

IV. ACKNOWLEDGMENT

I wish to express my profound thanks to all who helped us directly or indirectly in making this paper. Finally I wish to thank to all our friends and well-wishers who supported us in completing this paper successfully I am especially grateful to our guide for him time to time, very much needed, valuable guidance. Without the full support and cheerful encouragement of my guide, the paper would not have been completed on time.

V. CONCLUSION

The system is designed keyword with top-k ranked search over secure server data. The system provides the accurate result ranking documents. The system provides search efficiency due to the use of tree based index and efficient search algorithm. For future work there are many challenges in symmetric searchable encryption scheme. As it is assumed that all the data users are trustworthy, but in practical, the dishonest data user may distribute his secure keys to unauthorized users.

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