Implementation Of Citechgram Using Cloud Computing And Web Technology

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Abstract: Citechgram is a social media platform that draws its inspiration from Twitter and it serves Cambridge University students alone. In this research, we will discuss the possibilities of using cloud computing and web development technologies in building Citechgram. Citechgram can provide an adaptable, safe, and dynamic platform for Cambridge students to connect with each other, share ideas and create a vibrant online community by exploiting cloud-based infrastructure and strong web development frameworks.

Keywords - *cloud services, Web Application, CITECHGRAM.*

I. INTRODUCTION

Nowadays, social media has already become inseparable part of a contemporary communication enabling people to connect despite the distances. Universities have also been influenced by this trend and they are looking more into social media for the purposes of extending student interaction and dialogue. Among other things, Citechgram is a dedicated social media platform designed exclusively for Cambridge University students. This paper discusses the technical aspects that underlie Citechgram emphasizing on cloud computing and web development as foundations for building an exceptional scalable platform. User authentication, tweet posting, following/unfollowing users, notifications, timelines and profile management are the main features of Citechgram. Users can sign up, personalize their profiles, upload tweets, like and retweet posts as well as interact with other users by way of mentions and direct messages.

II. LITERATURE SURVEY

A literature review is the identification and examination of the existing research work in the chosen field to gain valuable information. This section presents a comprehensive literature survey that reviews relevant research efforts related to our Citechgram project. As the study was made to compare supervised and unsupervised algorithms, the literature review was performed to identify the most effective algorithm of each kind.

In [1] the authors have presented the Web Applications at the Desktop

With a desktop application service framework, a Web server is capable of providing the needed environment desktop applications can perform. Users can have access to the sites from their browser. It is the framework that comes to our rescue in the process of running virtual desktop cloud saving bandwidth by making a server website available only in HTML for browser-based usage. The framework allows with time, enabling a 'wheel'-management entity to 'kick' or 'release' applications standard Web protocols. The DAS framework exhibits three advantages: On the other hand, it can provide services which can be useful live streaming needs a considerable amount of data and guarantees consistent service across platforms for anyone who is not willing to compromise on the entertainment par, improves code reusability.

In [2] the authors have used the words to write The Geniuses of the World Wide Web.

Constantly utilized method to produce the summary document is to extract essentials.one of the tools that will be applied for a refined summary will be the ability to extract only relevant information from the text using the shorten it to a well-structured and informative summary. Two key algorithms were developed in the context of the World Wide Web: Page rank and Map reduce, PageRank. Two key algorithms were developed in the context of the World Wide Web: Two key algorithms were developed in the context of the World Wide Web: Page Rank and MapReduce. The platform called PageRank found by Larry Page and Sergey Brin is an algorithm, which plays a major role with respect to the weight afforded to a webpage depends on the number of back links it gets. MapReduce, a creation primarily based on Patents Pages and Brin, is organized for large-sized data processing. which is based on web crawling, performing the parallel processing and handling of the quite big information throughput, underlying file system. Algorithms were subsequent improved that brought about perfection of Google engines.

In [3] the authors have suggested a approach termed Event-Triggered Control Design.

Auto-Scaling for Cloud-Based Web Servers as Application Scale. The work on auto-scaling can be broadly categorized into the following groups: 1. Threshold based rules: The scaling of the system is motivated by the performance metrics and thresholds that we have previously set.2. Queuing theory: Sorts out ones that enter the system and leave the one.3. Control theory: Identifies a mathematical model of the system and designs a way to increase the efficiency of the controller by adjusting its parameter required resources. 4. Reinforcement learning: Finds out what message suits this state practicing two methods, as trial and error. 5. Time series-based analysis: Identifies the occurrence of patterns and forecasts considered as one data point at a time and as future

values that are based on sequences of other data points. The article further defines the rule-based scaling constant, guzzler, and time-of-trip-dependent scaling constant, cruise algorithms for the comparison, and the event-triggered control (ETC) is a strategy that is being produced proven IC working efficiently for auto-scaling for private cloud infrastructure.

In [4] the authors propose an analysis technique Hate Speech on Twitter: A pragmatic one should be cultivated with experience and practice.

For this report, I will start by collecting and reviewing some hateful and offensive expressions to see if there are any instances a hate speech. Detection It predominantly uses the machine learning algorithm "J48graft" for completion the List of notifications tags classification among a set of categories. The J48graft algorithm which is basic statistically nonparametric envelope depth learning methods will be used. Hyperparameter is chosen for this case, which is the confidence threshold for the pruning entity or (C). In the same way, the benefits of leisure activities cannot be underestimated. where Kp is the parameter gained from operation is 0.66. It can be observed that this classifier is with higher Accuracy and F1 Score performances than other classifiers. Furthermore, the paper states that the use of features such as curbs, crosswalks, and pedestrian islands could be used obtained from the tweets which are made of up of unigrams and patterns (pattern recognition algorithm), those features are later used to train the model. The machine learning algorithm. It uses two facing search lights that not only spot the offenders but signal their location to nearby patrols. In that case, blocking fake accounts and monitoring insulting and hatred messages in Twitter will use those tools.

In [5] the authors offer a detailed depiction of achieving expedient science through cloud Computing.

Among the topics to be covered is the effect of cloud features like the "elasticity" and "on-demand" parameters on cloud characteristics, Supplies resources apportioning, spreading, several tenants and bugs removal using algorithmic models, It mentions such schemes are DR messages, i.e., asynchronous replica exchange method, decentralized, asynchronous and show the best resilience algorithm aiding in protein simulation, which relates to stability and dynamics. Asides this, it emphasizes the vital role played by correct programming models and systems to provide for the introduction of CDS&E applications, use clouds, go further than and create the abstractions and tools necessary to support the same the consolidation of cloud base and computing platforms created unlimited flexibility for users as cloud services became readily available.

In [6] the authors have contributed different New Clustering Algorithms to Twitter sentiment analysis.

The DENCLUE algorithm is a density-based clustering algorithm of K-Medoids techniques used for classifying data which is large datasets, survey into sentiment analysis, especially that used on social media platforms like twitter. It is the k-means algorithm constructs groupings based on distance interpretations and a function of density and clusters large sized datasets in an efficient manner containing noise. The algorithm target is based on reaching densities at certain points hereby set traps assumed are localized maxima of this function. It applies hill climbing algorithm, which is able to find low spots.to find these maximums.

In [7] the authors behind Journal proposed a learning process to be focused on Detecting Automation of Twitter.

The system classifies Twitter users into three categories: mankind reaching the endpoint of trans humanization via singularity, machines, and cyborgs. The system consists of several components: the entropy component generate, spam detection component use, and the concept. The moral challenge will involve avoiding potential biases among a range of policymakers, decision makers, and the accountability mechanism. The entropy component detects balanced timing requirements of both the messages that are sent through Twitter within a certain time frame. The spam detection the part in which tweet content is detected is likely to be used for spam. Account Properties Component, to it actually determines the designations of external links on a tweet being either malignant phishing URLs or not.

In [8] the authors said that the future capabilities in the cybersecurity are more often than not have potential aligners.

The idea here is more or less a cybernetic language processing model which analyzes texts and works accordingly. analyzes the source text and identifies the main points, and then produces an abstract as an output. It leverages machine reading and comprehension as well as the learning and I do my best around notable events for good reason. thus, providing the learner with a better understanding and recall for long-term learning. The algorithm which fetches the main phrases out of a text introducing the major theme, topic, and relationship within the text in order to result the summary being adaptive and informative. This process entails the usage of language comprehension, information extraction, and summarization tools that will reduce the information to make content more digestible.

In [9] the authors offer learning methods applying Twitter Sentiment Analysis based on Ordinal Regression.

The method is Random Forest (RF) is a machine learning technique that is a capable of both, classification and regression tasks. It works through creating multiple decision procedures during the training process that result in the formation of or access to an answer that best corresponds to the new data decision-making that concerns extraction of the modality of classes and average prediction for regression. Possibly every tree in the forest takes the random part of the data train and it produces its own tree pattern it would like while learning with this random subset own prediction. After doing all predictions, the final one is determined by combining the outcome of all the expert's individual trees. This is a case when ensemble techniques are used with high efficiency and usually lead to robust and accurate forecasts. In the random forest algorithm was used and many tweets were classified into sentiment polarity in this sentiment analysis context not only including positive, negative, emotional and factual categories but also using the features of the text data to extract different sentiment categories.

In [10] the authors in this article put it as with whom and what. Tweet analysis via topic identification allows to classify and group the content by major subjects.

Both Interactions and Text Algorithm uses NMF aka non-negative matrix factorization to create topics out of the twitter content data. The Twitter sensation is graphically represented by a factorized matrix A which is lower-dimension-ally shaped into a latent space the non-negative singular factorization of a latent tweet-topic matrix through NMF. The intJNMF algorithm shows a better result than the others approach notably, the results increased 10-35 percent when both Purity and NMI (Normalized Modified Mutant Index; involve loss of function) are considered. Prediction from STATEN (Statewide Automated Translation Evaluation Network) method outperforms and the other baselines. The algorithm hinges on NMF as its key approach for revealing the latent structure behind the data they analyze the latent thematic structures of Twitter data, examine the topics and likelihood of an outbreak from post to post using machine learning, they use the knowledge gained to track outbreaks and inform public health officials between tweets.

III. BACKGROUND

The social media has considerably altered the communication landscape. In addition, those platforms have created resultant information in real-time, made global connections possible and changed our manner of dealing with data. Universities are therefore increasing their use of social media to engage students and improve communication. Twitter is a widely used microblogging platform designed for sharing short updates and building online communities. Nonetheless, most existing social networking sites are developed for a general public hence cannot fully address specific student needs. Citechgram does this by developing an exclusive microblogging site for Cambridge University students only. Citechgram was influenced by Twitter's functionality where students at Cambridge can feel at home through its easy user interface.

IV. OBJECTIVE

It The objective of a CITECHGRAM project using web development and cloud computing can be multifaceted, but here are some primary goals you might consider Learning Experience. This will allow will allow you to comprehend the fundamental principles behind social networking platforms which include user authentication, posting tweets, following users, notifications and timelines. It involves learning how to create data models for social media platforms. Also, it encompasses user data management, tweets, hobby re-tweets including search features and topical issues too.

The advent of sites like twitter could be the most dramatic change in communication ever, for they have led to instant information sharing and connecting people worldwide. As a result of this possibility, universities are now keen on using social media tools for improving engagement among students and better communication within their academic environments. However, normal online platforms are not well-geared towards university academics. A response to this is the rise of Citechgram, which seeks to develop a micro-blogging site specifically meant for Cambridge University learners.

V. DESIGN

The design covers the Graph the system`s architecture from the initial concept to subsequent sign transmission. subsequent phases of design. The static and dynamic characteristics of these individual agents are also brought into the picture detailed. The development and the implementation testing phase of the project are dependent on this documentation. The design will be developed in as much depth as possible already in the pre-design stage. The project also includes the interaction a designer has with the cloud as you are working with the cloud during the entire life cycle of the project. Through cloud services, you have the opportunity to explore how applications can be set up in a manner where the applications can handle the increasing number of users and the storage needs. The undertaking involves both frontend and backend development, therefore, by the end you can claim you have become skilled in building web apps.
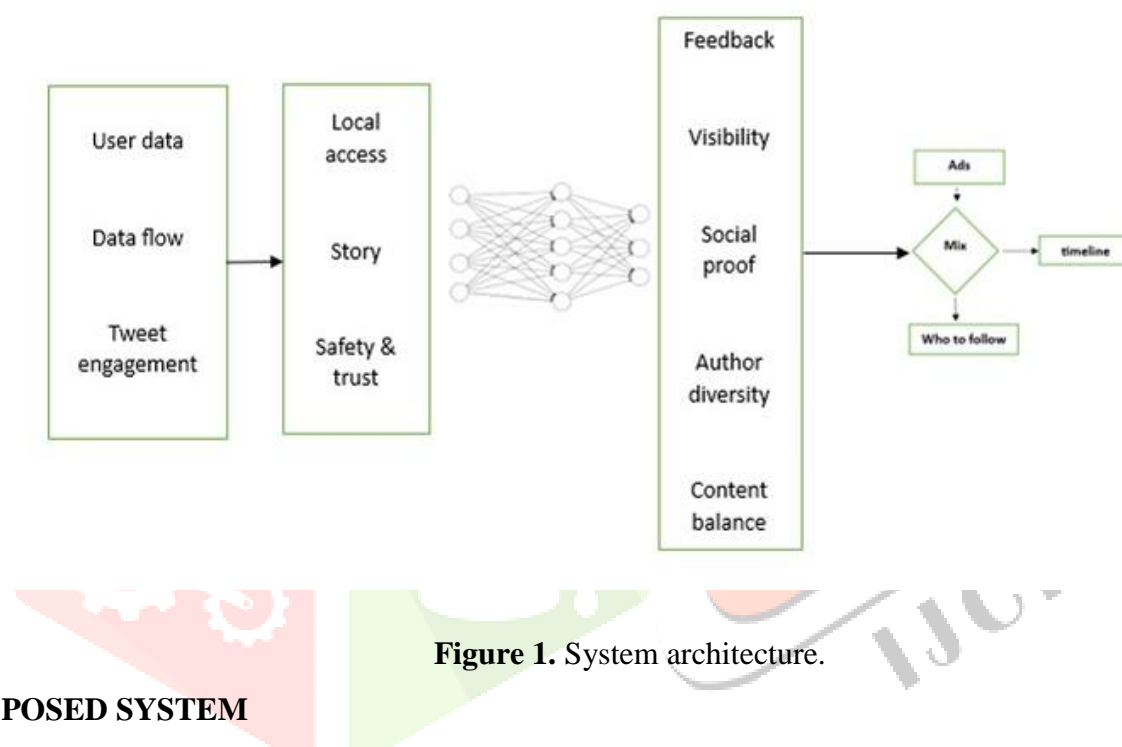

Figure 1. System architecture.

PROPOSED SYSTEM

A System Architecture Citechgram is devoted to inform you about the latest global events both ongoing and coming up. This requires a recommendation algorithm to filter down daily Tweets 500 million, which is probably more than 500 million from 500 million to Tweets posted, to a few whether it's the hashtags have tags, the number of likes or retweets a Tweet receives, or the trends that ultimately make it to your personalized for your timeline. This blog shows how tweets are displayed for you on your twitter feed is part of your training about the algorithm.

1. **Flow Data:** The Network Source is the biggest source to be counted on and aims to deliver the most essential, relevant observation. It works quite efficiently by featuring those who are under your radar at the forefront so that you can get to know about what is occurring in the society.by demonstration of their significance with a logit regression model. The top Tweets are then again sent to other stages, thus giving more and more relevant content and a clear customer profile

2. **Tweet Engagement:** As our prototype social media platform, the CITECHGRAM platform has various Candidate Sources that is used to fetch latest and topical Tweets for a user. For in a place of every request we try to tweet out the 15 million most suitable tweets out of hundreds of millions tweets by sources. We search for candidates in two areas: the ones you follow (Your Network) and the people you don't know (Outside Network) of-Network. In contrast to that, the home timeline of today is made up of 50% Twitter posts that are published by Twitter users who are connected to you directly and 50% which come from users that you do not follow whom you also referred to as Out of Twitter Network (OTN), A few lines at most, even though the number of words may be more on one case and less on the other.

3. **User Data:** User Name/Email/Password: The User Name, an Email Address (used for login) and the Password (that are stored in a hashed, safe and secure way), will be saved as well as a profile picture. Profile Details: It can be allowing the users to apply whatever they want from their bio, location (sometime can be private based), a website URL, among other private details. Activity Data: For this particular purpose, the system would look into posted tweets by the user, retweets and likes on other users' tweets, and probably direct messaging (if put in place). Following/Follower Relationships: These statistics manages to keep track of a user's following and followers list, for instance, the presenting of a timeline of a user and suggested connections.

4. **Local Access:** CITECHGRAM aims to be your place where you get access to see what's best happening in the world at that very moment. This requires a recommendation mechanism for the purpose of shrinking down the number of approximate 500 million Tweets to a meter of a handful on the most. Whether you want it or not, your timeline might include tweets that belong to your own language. This entry is about the influence of the Smaller Kingdoms making me decide to leave Leaving Leicestershire. which algorithm decides for it which Tweets to show in the left part of your screen.

5. **Trust and Safety:** The embeddings compute the sequences of vector dimensional representation of users' interests and tweets content. Hence, we are in the position to measure the similarity of ultra-users with their alternatives or of user-Tweets pairs. in this embedding space. Suggested we get inside true embeddings we can make such closeness.as a way to prove that the artists, designers, and the museum relevant.

FLOW CHART

Flow diagram is a collective term for a diagram representing a flow or set of dynamic relationships in a system.
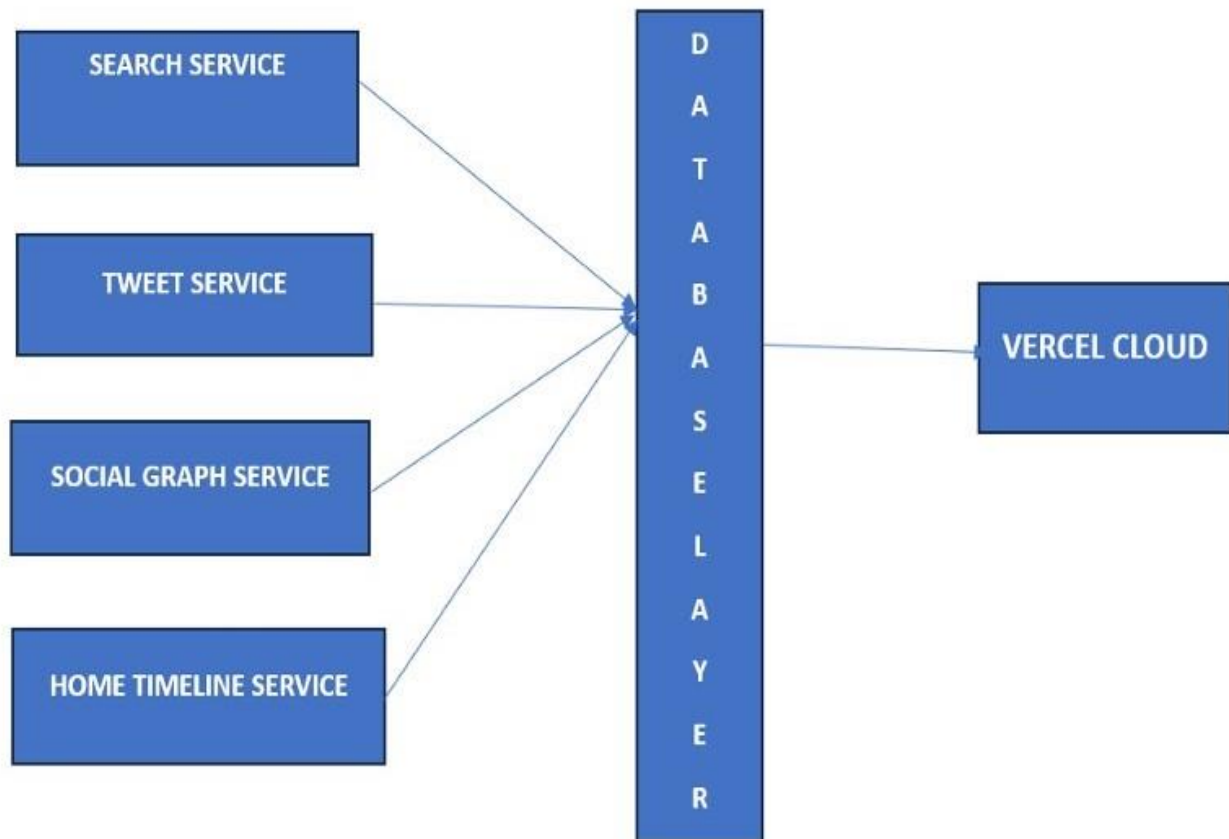

Figure 2. Flow chart of the working model.

1. **Search Service**: This is a service that can serve as a means for users to discover other users as well as tweets by means of keywords and hashtags. While it is the database where user profiles and tweets are stored in the Twitter clone, it may be connected to it.

2. **Tweet Service:** This platform covers functions of the tweeting capacity. Clients can make posts, all of them will go into the database. It may be capable to handle also some sort of actions, e.g. following, liking, retweeting and updating follower timelines as well.

3. **Vercel Cloud:** Although the cloud provider is not written here at all, it could probably be sure that Twitter clone is the cloud infrastructure provider that will allow the application to run on it. Also, there are some other cloud services like, Google Cloud Platform (GCP), Vercel, which can be rather alternatives.

4. **Social Graph Service:** This feature handles the followers' reasons, identifying who follows who past their posts. These details are important in that they are used to crop the user timelines to include tweets that the researchers follow. The triangles in this diagram depicts how information flows in between different services.

5. **Home Timeline Service:** This feature enables it to churn out an allegedly individualized feed of tweets for each of the users. Specifically, it analyses the target users' activity on Twitter – what they retweet, the number of the followers they have and who they follow – possibly other factors like popularity or engagement. One of the interesting things that users of the search service make use of it is to find other users or tweets. The results would be expected inside the UI of the search page. The Stored retrievals service interacts with the database to store and retrieve tweet data. It probably too detects who needs to read a particular tweet using social graph a service that determines the following relationships. Home Timeline service is used to obtain tweets from the data base. Following users (provided by Social Graph service) and considering one or more other ranking factors is the task of the service. Next, it breaks down the feed into sections based on the user's interests and presents the information in an attractive user interface.

VI. CONCLUSION

The Twitter clone project employing cloud computing and web development has been a significant endeavour. Through this project, we have successfully demonstrated the utilization of modern technologies to replicate the functionality of a popular social media platform. The integration of cloud computing services has provided scalability, reliability, and flexibility to our application. Leveraging web development frameworks and tools has facilitated rapid development and deployment cycles. Overall, this project showcases the power of synergy between cloud computing and web development in creating robust and feature-rich applications. Citechgram has the potential to become a lively social hub for Cambridge students with the help of cloud computing and solid web development practices. The scalability, security, and global reach provided by cloud services, along with a well-designed web application, can help create a vibrant online community for Cambridge students to connect, exchange ideas, and build a thriving online network. By focusing on security and educating users, Citechgram can guarantee a safe and rewarding microblogging experience for the Cambridge University community.

REFERENCES

[1] Borting Chen, Ho-Pang Hsu, and Yu-Lun Huang"Bringing Desktop Applications to the Web",National Chiao Tung University, Taiwan,January/February 2016.

[2] Kate Keahey, Argonne National Laboratory and University of Chicago Manish Parashar, Rutgers,"Enabling On-Demand

Science via Cloud Computing",The State University of New Jersey,2014

[3] Durgesh Singh, Member, IEEE, Kshama Dwarakanath, and Ramkrishna Pasumarthy , Member,"Event-Triggered Control Design for Systems With Exogenous Inputs: Application for Auto-Scaling of Cloud-Hosted Web Servers",IEEE,2021

[4] Hajime Watanabe, Mondher Bouazizi, And Tomoaki Ohtsuki Graduate School of Science and Technology, Keio University, Yokohama 223-8522,"Hate Speech on Twitter: A Pragmatic Approach to Collect Hateful and Offensive Expressions and Perform Hate Speech Detection",Japan,2017.

[5] George Strawn, NITRD,"Masterminds of the World Wide Web",July/August 2014.

[6] Hajar Rehioui and Abdellah Idriss,"New Clustering Algorithms for Twitter Sentiment Analysis",IEEE SYSTEMS JOURNAL, VOL. 14, NO. 1, MARCH 2020 .

[7] Jeremiah Grossman | WhiteHat Security,"The State of Website Security",July/August 2012.

[8] Harsha V. Madhyastha, and Srikanth V. Krishnamurthy |University of California, Riverside Sateesh Addepalli | Cisco Systems,"Twitsper: Tweeting Privately,Indrajeet Singh, Michael Butkiewicz",2013.

[9] SHIHAB ELBAGIR 1,2 AND JING YANG 1,1College of Computer Science and Technology, Harbin Engineering University, Harbin 150001, China,2Faculty of Computer Science and Information Technology, Shendi University, Shendi 142-143, Sudan,"Twitter Sentiment Analysis Based on Ordinal Regression",VOLUME 7, 2019.

[10] Tobias Schreck and Daniel Keim University of Konstanz, Germany,"Visual Analysis of Social Media Data",May 2013.

[11] Robertus Nugroho, Jian Yang , Weiliang Zhao , Cecile Paris, and Surya Nepal,"What and With Whom? Identifying Topics in Twitter Through Both Interactions and Text",IEEE TRANSACTIONS ON SERVICES COMPUTING, VOL. 13, NO. 3, MAY/JUNE 2020.

[12] Peter Mell, US National Institute of Standards and Technology,"What's Special about Cloud Security?",July/August 2012.

[13] A. de Moor, "Conversations in context: A Twitter case for social media systems design," in Proc. 6th Int. Conf. Semantic Syst., Sep. 2010, Art. no. 29.

[14 V. Singh and S. K. Dubey, ''Opinion mining and analysis: A literature review,'' in Proc. 5th Int. Conf.-Confluence Next Gener. Inf. Technol.Summit (Confluence), Sep. 2014, pp. 232–239.

[15] A. Celikyilmaz, D. Hakkani-Tür, and J. Feng, ''Probabilistic model-based sentiment analysis of Twitter messages,'' in Proc. IEEE Spoken Lang.Technol. Workshop, Dec. 2010, pp. 79–84.

[16] M. Bouazizi and T. Ohtsuki, ''A pattern-based approach for multi-class sentiment analysis in Twitter,'' IEEE Access, vol. 5, pp. 20617–20639,2017.

[17] J. Kiss, "Twitter Reveals It Has 100m Active Users," Guardian, 8 Sept. 2011; www.guardian.co.uk/technology/pda/ 2011/sep/08/twitter-active-users.

[18] J. O'Dell, "How Big Is the Web, & How Fast Is It Growing?", Mashable, 19 June 2011; http://mashable.com/2011/06/19/how-many-websites.

[19] S.-T. Wang et al., "Development of Web-Based Remote Desktop to Provide Adaptive User Interfaces in Cloud Platform," Int'l J. Computer, Information, Systems and Control Eng., vol. 8, no. 8, 2014, pp. 1195–1199.

[20] M. Grechanik et al., "Creating Web Services from GUI-Based Applications," Proc. IEEE Int'l Conf. Service-Oriented Computing and Applications, 2007, pp. 72–79.

[21] S. S. Kumari and G. A. Babu, "Sentiment on social interactions using linear and non-linear clustering," in Proc. 2nd Int. Conf. Adv. Elect., Electron.,Inform., Commun. Bio-Inform., 2016, pp. 177–181.

[22] H. Suresh and S. G. Raj, "A fuzzy based hybrid hierarchical clustering model for twitter sentiment analysis," in Proc. Int. Conf. Comput. Intell.,Commun., Bus. Anal., 2017, pp. 384–397

[23] H. Suresh et al., "An unsupervised fuzzy clustering method for twitter sentiment analysis," in Proc. Int. Conf. Comput. Syst. Int. Technol. Sustain.Solutions, 2016, pp. 80–85.

[24] Z. Waseem and D. Hovy, ''Hateful symbols or hateful people? Predictive features for hate speech detection on Twitter,'' in Proc. Student Res.Workshop (NAACL), Jun. 2016, pp. 88–93.

[25] J. P. Breckheimer, ''A haven for hate: The foreign and domestic implications of protecting Internet hate speech under the first amendment,'' South California Law Rev., vol. 75, no. 6, p. 1493, Sep. 2002.