A Distributed Tweet Segmentation and Its Application to Named Based Entity Recognition

Ch. Rama Devi
Assistant Professor
M. Prasanna Lakshmi
M. Tech Student
C. R. Reddy College of Engineering, Eluru, West Godavari Dt, AP, India

Abstract-Twitter has involved lots of users to share and distribute most recent information, resulting in a large sizes of data produced every day. However, a variety of application in Natural Language Processing and Information Retrieval (IR) suffer harshly from the noisy and short character of tweets. Here, we suggest a framework for tweet segmentation in a batch mode, called HybridSeg. By dividing tweets into meaningful segments, the semantic or background information is well preserved and without difficulty retrieve by the downstream application. HybridSeg finds the best segmentation of a tweet by maximizing the addition of the adhesiveness scores of its applicant segments. The stickiness score considering the probability of a segment being a express in English (i.e., global context and local context). latter, we propose and evaluate two models to derive with local context by involving the linguistic structures and term-dependency in a batch of tweets, respectively. Experiments on two tweet data sets illustrate that tweet segmentation value is significantly increased by learning both global and local contexts compared by global context only. Through analysis we show that local linguistic structures are extra reliable for understanding local context compare with term dependency.

I. INTRODUCTION

Social media is the two-way communication in Web 2.0 and it means to communicate, share, and interact with an individual or with a large audience. Social networking websites are the most famous websites on the Internet and millions of people use them every day to engage and connect with other people. Twitter, Facebook, LinkedIn and Google Plus seems to be the most popular Social networking websites on the Internet. Today, for every single piece of content shared on sites like Facebook—every wall post, photo, status update, and video—the up loader must decide which of his friends, group members, and other Facebook users should be able to access the content. As a result, the issue of privacy on sites like Facebook has received significant attention in both the research community [1] and the mainstream media [2]. Our goal is to improve the set of privacy controls and defaults, but we are limited by the fact that there has been no in-depth study of users' privacy settings on sites like Facebook. While significant privacy violations and mismatched user expectations are likely to exist, the extent to which such privacy violations occur has yet to be quantified. Images are now one of the key enablers of users' connectivity. Sharing takes place both among previously established groups of known people or social circles (e.g. Google+, Flickr or Picasa), and also increasingly with people outside the user's social circles, for purposes of social discovery to help them identify new peers and learn about peer's interests and social surroundings. With the increasing volume of images users share through social sites, maintaining privacy has become a major problem, as demonstrated by a recent wave of publicized incidents where users inadvertently shared personal information. In light of these incidents, the need of tools to help users control access to their shared content is apparent. An image retrieval system is a computer system for browsing, searching and retrieving images from a large database of digital images. Most traditional and common methods of image retrieval utilize some method of adding metadata such as captioning, keywords or descriptions to the image retrieval can be performed over the annotation words. Manual image annotation is time consuming, laborious and expensive to address this, there has been a large amount of research done on automatic image annotation. Additionally, the increase social web applications and the semantic web have inspired the development of several web-based image annotation tools. Automatic image annotation [6] is the process by which a computer system automatically assigns metadata in the form of captioning or keywords to a digital image. This application of computer vision techniques is used in image retrieval systems to organize and locate images of interest from a database. This method can be regarded as a type of multi-image classification with a very large number of classes large as the vocabulary size. Typically, image analysis in the form of extracted feature vectors and training annotation words are used by machine learning techniques to attempt to automatically apply annotations to new images. IMAGES are now one of the key enablers of users' connectivity. sharing takes place both among previously established groups of known people or social circles (e.g., Google+, Flickr or Picasa), and also increasingly with people outside the users social circles, for purposes of social discovery-to help them identify new peers and learn about peers interests and social surroundings. However, semantically rich images may reveal content sensitive information []. Consider a photo of a students 2012 graduation ceremony, for example. It could

be shared within a Google+ circle or Flickr group, but may unnecessarily expose the studentsBApos family members and other friends. Sharing images within online content sharing sites. Therefore, may quickly lead to unwanted disclosure and privacy violations [3], [24]. Further, the persistent nature of online media makes it possible for other users to collect rich aggregated information about the owner of the published content and the subjects in the published content [3], [20], [24]. The aggregated information can result in unexpected exposure of one's social environment and lead to abuse of one's personal information. Most content sharing websites allow users to enter their privacy preferences. Unfortunately, recent studies have shown that users struggle to set up and maintain such privacy settings [1], [11], [22], [33]. One of the main reasons provided is that given the amount of shared information this process can be tedious and error-prone. Therefore, many have acknowledged the need of policy recommendation systems which can assist users to easily and properly configure privacy settings [7], [22], [28], [30]. However, existing proposals for automating privacy settings appear to be inadequate to address the unique privacy needs of images [3], [5], [41], due to the amount of information implicitly carried within images, and their relationship with the online environment wherein they are exposed. In this paper, we propose an Adaptive Privacy Policy Prediction (A3P) system which aims to provide users a hassle free privacy settings experience by automatically generating personalized policies. The A3P system handles user uploaded images, and factors in the following criteria that influence one's privacy settings of images. The impact of social environment and personal characteristics. Social context of users, such as their profile information and relationships with others may provide useful information regarding users' privacy preferences. For example, users interested in photography may like to share their photos with other amateur photographers. Users who have several family members among their social contacts may share with them pictures related to family events. However, using common policies across all users or across users with similar traits may be too simplistic and not satisfy individual preferences. Users may have drastically different opinions even on the same type of images. For example, a privacy adverse person may be willing to share all his personal images while a more conservative person may just want to share personal images.

II. LITERATURE SURVEY

Privacy Suites [1] is proposed by Jonathan Anderson which allows users to easily choose —suites" of privacy settings. Using privacy programming a privacy suite can be created by an expert. Privacy Suites could also be created directly through existing configuration UIs or exporting them to the abstract format. To the members of the social sites the privacy suite is distributed through existing distribution channels. Transparency is the main goal, which is essential for convincing influential users that it is safe to use. The disadvantage of a rich programming language is less

understanding ability for end users. To verify a Privacy Suite sufficiently high-level language and good coding practice, motivated users are able. Privacy-Aware Image Classification and Search [2] is a technique to automatically detect private images, and to enable privacy-oriented image search introduced by SergejZerr. To provide security policies technique combines textual meta data images with variety of visual features. It uses various classification models trained on a large scale dataset with privacy assignments obtained through a social annotation game. In this the selected image features (edges, faces, color histograms) which can help discriminate between natural and man-made objects/scenes (the EDCV feature) that can indicate the presence or absence of particular objects (SIFT). A tag based access control of data [3] is developed by Peter F. Klemperer. It is a system that creates access-control policies from photo management tags. Every photo is incorporated with an access grid for mapping the photo with the participant's friends. A suitable preference can be selected by participants and access the information. Based on the user needs photo tags can be categorized as organizational or communicative. There are several important limitations. First, our results are limited by the participants recruited and the photos provided by them. Machine generated access-control rules are the second limitation. Algorithm used here has no access to the context and meaning of tags and no insight into the policy the participant intended when tagging for access control. Hence, some rules appeared strange to the participants who makes them to tag explicitly like —private‖ and —public A decentralised authentication protocol [4], is an access control system proposed by Ching-man Au Yeung based on a descriptive tags and linked data of social networks in the Semantic websites. Here users can specify access control rules based on open linked data provided by other parties and it allows users to create expressive policies for their photos stored in one or more photo sharing. Adaptive Privacy Policy Prediction (A3P) [5] system is introduced by Anna CinziaSquicciarini. Personalized policies can be automatically generated by this system. It makes use of the uploaded images by users and a hierarchical image classification is done. Images content and metadata is handled by the A3P system. It consists of two components: A3P Core and A3P Social. The image will be first sent to the A3P-core, when the user uploads the image. The A3P-core classifies the image and determines whether there is a need to invoke the A3P-social. When meta data information is unavailable it is difficult to generate accurate privacy policy. This is the disadvantage of this system. Privacy violation as well as inaccurate classification will be the after effect of manual creation of meta data log information.

III. RELATED WORK

Consider social context such as one's friend list. While interesting, they may not be sufficient to address challenges brought by image files for which privacy may vary substantially not just because of social context but also due to the actual image content. As far as images, authors in

have presented an expressive language for images uploaded in social sites. This work is complementary to ours as we do not deal with policy expressiveness, but rely on common forms policy specification for our predictive algorithm. In addition, there is a large body of work on image content analysis, for classification and interpretation, retrieval, and photo ranking, also in the context of online photo sharing sites. Of these works, probably the closest to ours.explores privacy-aware image classification using a mixed set of features, both content and meta-data. This is however a binary classification (private versus public), so the classification task is very different than ours. Also, the authors do not deal with the issue of cold-start problem.

IV. SCHEME DESCRIPTION

In proposed System an Adaptive Privacy Policy Prediction (A3P) system that helps users automate the privacy policy settings for their uploaded images. The A3P system provides a comprehensive framework to infer privacy preferences based on the information available for a given user. We also effectively tackled the issue of cold-start, leveraging social context information. Our experimental study proves that our A3P is a practical tool that offers significant improvements over current approaches to privacy. Advantages: Maintain both efficiency and high prediction accuracy of a system

V. IMPLEMENTATION

1) A3P-CORE

2) A3P-SOCIAL

A3P-CORE: There are two major components in A3P-core: (i) Image classification and (ii) Adaptive policy prediction. For each user, his/her images are first classified based on content and metadata. Then, privacy policies of each category of images are analysed for the policy prediction. Adopting a two-stage approach is more suitable for policy recommendation than applying the common one-stage data mining approaches to mine both image features and policies together Image classification: Groups of images that may be associated with similar privacy preferences; we propose a hierarchical image classification which classifies images first based on their contents and then refine each category into subcategories based on their metadata. Images that do not have metadata will be grouped only by content. Such a hierarchical classification gives a higher priority to image content and minimizes the influence of missing tags. Note that it is possible that some images are included in multiple categories as long as they contain the typical content features or metadata of those categories. Adaptive policy prediction: The policy prediction algorithm provides a predicted policy of a newly uploaded image to the user for his/her reference. More importantly, the predicted policy will reflect the possible changes of a user's privacy concerns. The prediction process consists of three main phases: (i) policy normalization; (ii) policy mining; and (iii) policy prediction. 1) Policy normalization: The policy

normalization is a simple decomposition process to convert a user policy into a set of atomic rules in which the data (D) component is a single-element set. 2) Policy mining: hierarchical mining first looks for popular subjects defined by the user, then look for popular actions in the policies containing the popular subjects, and finally for popular conditions in the policies containing both popular subjects and conditions. 3) Policy prediction: The policy mining phase may generate several candidate policies while the goal of our system is to return the most promising one to the user. Thus, we present an approach to choose the best candidate policy that follows the user's privacy tendency. To model the user's privacy tendency, we define a notion of strictness level. The strictness level is a quantitative metric that describes how "strict" a policy is. A3P-SOCIAL: The A3P-social employs a multi-criteria inference mechanism that generates representative policies by leveraging key information related to the user's social context and his general attitude toward privacy. One is when the user is a newbie of a site, and does not have enough images stored for the A3P-core to infer meaningful and customized policies
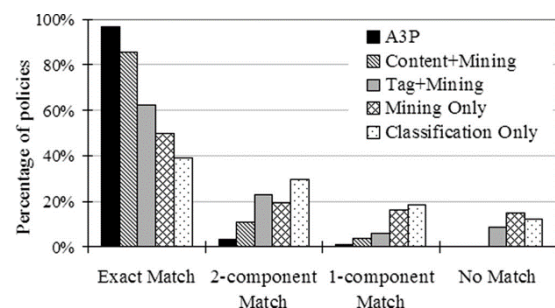
We have proposed an Adaptive Privacy Policy Prediction (A3P) system that helps users automate the privacy policy settings for their uploaded images. The A3P system provides a comprehensive framework to infer privacy preferences based on the information available for a given user. We also effectively tackled the issue of cold-start, leveraging social context information. Our experimental study proves that our A3P is a practical tool that offers significant improvements over current approaches to privacy. Social network is an upgrading media for information sharing through internet

VI. REFERENCES

[1]. R. Datta, D. Joshi, J. Li, and J. Wang, "Image retrieval: Ideas, influences, and trends of the new age" IEEE Transaction on Cloud Computing, Vol. 2, NO. 4, OCTOBER-DECEMBER 2014.

[2]. P.R. Hill, C.N. Canagarajah and D.R. Bull, "Rotationally Invariant Texture Based Features" IEEE Computer Society 1089- 7801/15/$31.00 c 2015 IEEE.

[3]. Kaitai Liang, Joseph K. Liu, Rongxing Lu, Duncan S. Wong, "Privacy Concerns for Photo Sharing in Online Social Networks" IEEE Computer Society 1089- 7801/15/$31.00 c 2015 IEEE.

[4]. P. Klemperer, Y. Liang, M. Mazurek, M. Sleeper, "Tag, you can see it!: Using tags for access control in photo sharing"

IEEE Transaction on Engineering Management, Vol. 62, NO. 3, AUGUST 2015.

[5]. D. Liu, X.-S. Hua, M. Wang, and H.-J.Zhang, "Retagging social images based on visual and semantic consistency" IEEE Transaction on Image Processing, VOL. 24, NO. 11, NOVEMBER 2014.

[6]. G. Loy and A. Zelinsky, "Fast radial symmetry for detecting points of interest" IEEE Transaction on Pattern Analysis and Machine Intelligence, Vol. 25, NO.8, AUGUST 2014

[7]. A. Acquisti and R. Gross, "Imagined communities: Awareness, information sharing, and privacy on the Facebook," in Proc.6th Int. Conf. Privacy Enhancing Technol. Workshop, 2006,pp. 36–58.

[8]. R. Agrawal and R. Srikant, "Fast algorithms for mining association rules in large databases," in Proc. 20th Int. Conf. Very Large Databases, 1994, pp. 487–499.

Ch. Rama Devi has completed herM. Tech in Computer Science and Engineering from Sir C R Reddy college of engineering. She is currently associated with Sir C R Reddy College of Engineering, ELURU, West Godavari District   A.P. India.   Affiliated to Andhra University**.**

MadalaPrasanna Lakshmistudent ofM.Tech. in Computer Science and Technology from C.R. Reddy College of Engineering, Eluru, West Godavari Dt, Andhra Pradesh. She is currently working on her project.