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Privacy and Protecting Content for Social Sites

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Abstract: Study and investigate the role of social context, image content and metadata. We will propose two-level frameworks which according to the available history on the site. Base on the history it allots the best privacy and policies available for the user's image being uploaded. Our system relies on image classification framework for image categories which may be related with similar policies on site and on a policy predication algorithm through which automatic policy will be generated for newly uploaded images. Also sometime user social feature are also used.
Keywords: Privacy, policies, protection, social context, image content, metadata.

1) The impact of social environment and personal characteristics.
User's profile information and relationships with others may provide useful information regarding user's privacy preferences i.e the social context.
For example: Users interested in photography may share their photos with other photographers.
One may upload several photos of his kids and specify privacy that only his family members are allowed to see these photos.
2) The role of images content and metadata.
Similar images often sustain similar privacy preferences, mainly when people appear in the images.

I. INTRODUCTION

Most social content sharing sites allow users to enter their privacy preferences. Unfortunately, recent studies give result as that users struggle to set up and maintain such privacy settings.
Shared information in this process can be slow and error-prone. Therefore, there is need of policy recommendation systems which can help users to easily assign and properly configure privacy settings.
We propose an Interchangeable Privacy Policy Prediction (I3P) system which aims to provide users problem free privacy settings experience by automatically generating personalized policies. The I3P system handles user uploaded images, and factors in the following criteria that is useful for one's privacy settings of images:
Example: Photo clicked on beach
User uploads an image and it is handled as an input image. The properties of the newly uploaded image is compared with the properties of images in the current image database. To find the class of the uploaded image, first find the p closest matches. Then the class of the uploaded image is calculated as the class to which majority of the p images belong. If no primary class is found, a new primary class is created for the image. Later on, if the predicted policy for this new image turns out correct, the image will be inserted into the image category in the image database, to help refine future policy prediction.

II. LITERATURE SURVEY:

A. Recommendation System

Authors in [1] developed three features to characterized image in social media, image content, user tagging activity and user communication activity. Thus they explained their system by giving the example of Flickr group.
Authors in [2] proposed two methods for personalizing results of images search in Flickr .The two methods were ,First improve the search precision by filtering the tags by user's contact. And in Second method described the probabilistic model. Both methods depends on metadata users create through everyday activities on Flickr.
Authors in [3] described the retagging scheme that improves the quality of tags associated with social images. Thus described the consistency between "visual similarity" and "semantic similarity" in social images.
Authors in [4] explained the example of Flickr in which a photographer uploads his clicked images on his site and thus share with others. Only Sharing images doesn't make any social interaction it is important get critical feedbacks. For positive feedbacks it is important to choose correct community. So this paper explains the criteria of selecting Community or groups. Hence forth this is a study of comprehensive evaluation of CF (collaborative Filtering) algorithm for Flickr group recommendation.

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B. Privacy Configuration System

Authors in [5] will provide the particular "*suites*" for the uploaded images. These suites are predefined preferences and that can be selected by others i.e either by friends or trusted experts and also can be given by users if he wish to modify them.

Authors in [6] which proposed a technique called "*Social Circles Finder*" for generating social circles list automatically. For Particular circles fixed privacy are allotted. If any changes made it will be assign to whole group. Author in [8] worked on the tagged images of users by checking their keywords and captions and thus which can be easily used by users for creating and maintaining access control policies. It mainly focuses on Tag-based access control.

III. MATHEMATICAL MODEL: S = (I, P, O)

Where,

S= System I=Input P=Processing O= output

I={UP, DS} Where,

UP= Upload Image DS= Old Dataset

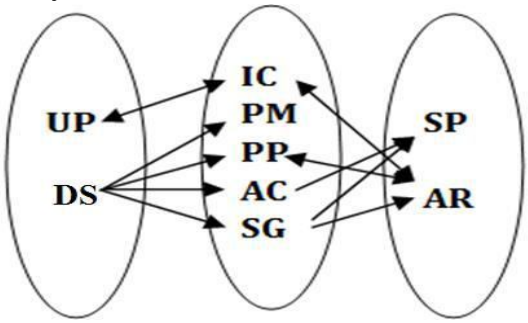
P={IC,PM,PP, AC, SG} Where

IC= Image Classification PM= Policy Mining PP=Policy Prediction

AC= Analyze Social Context SG= Social Group

O={SP, AR} Where,

SP= Suggested Policy AR= Accept/ Reject Policy



IV. SYSTEM ARCHITECTURE

A. System Construction Module

The I3P system consists of two main components: I3P-core and I3P-social. The overall data flow is the following.

When a user uploads an image, the image will be first sent to the component I3P-core. The I3P-core then classifies the image and determines whether there is a need to invoke the I3P-social or not. In most cases, the I3P-core predicts policies for the users directly based on their historical behavior/past used policies.

If one of the following two cases is true, I3P-core will invoke I3Psocial:

1) The user do not have enough data to predict the policy for uploaded image;

2) The I3P-core detects the recent changes among the users community about their privacy practices along with users increase of social networking activities i.e addition of new friends, new posts on one's profile etc.

B. Content-Based Classification: To obtain groups of images that do not have metadata will be grouped only by content. It is based on hierarchical classification that gives a higher priority to image content and minimizes the influence of missing tags. It is also possible that some images are included in multiple categories as long as they contain the typical content features or metadata of those categories.

C. Metadata-Based Classification: In metadata-based classification groups images into subcategories. The process consists of three main steps. I) Extract the keywords from the metadata associated with an image. The metadata considered in our project are tags, captions, and comments. Classify this metadata in noun, verb and adjectives. II) Derive a representative hypernym (denoted as h) from each metadata vector. III) Find a subcategory that an image belongs to. This is an incremental procedure. At the beginning, the first image forms a subcategory as itself and the representative hypernyms i.e make subcategories of subcategories based on the similarity and non-similarities. If new value of noun comes so check the closest threshold value and add in that subcategory.

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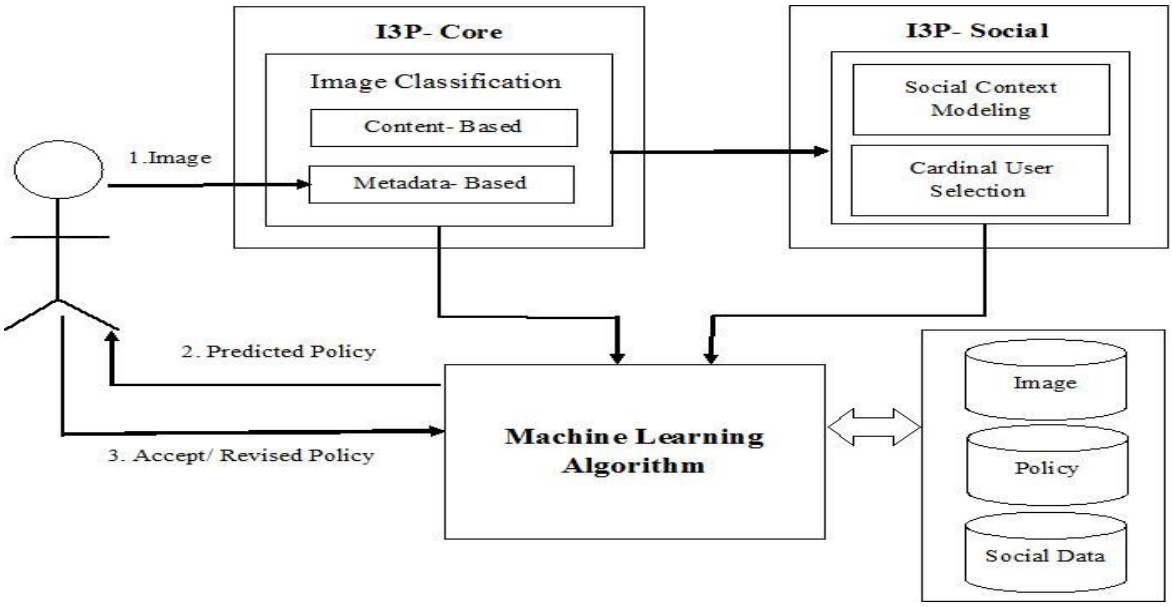

Fig 1: System Architecture

V. CONCLUSION

Thus we have projected an Adaptive Privacy Policy Prediction (I3P) scheme that helps users computerize the privacy policy settings for their uploaded images.

The I3P structure provides a structure that will provide privacy preferences based on the in order available for a given user.

Automatic Image illustration helps to overcome the issue of metadata information of images being uploaded

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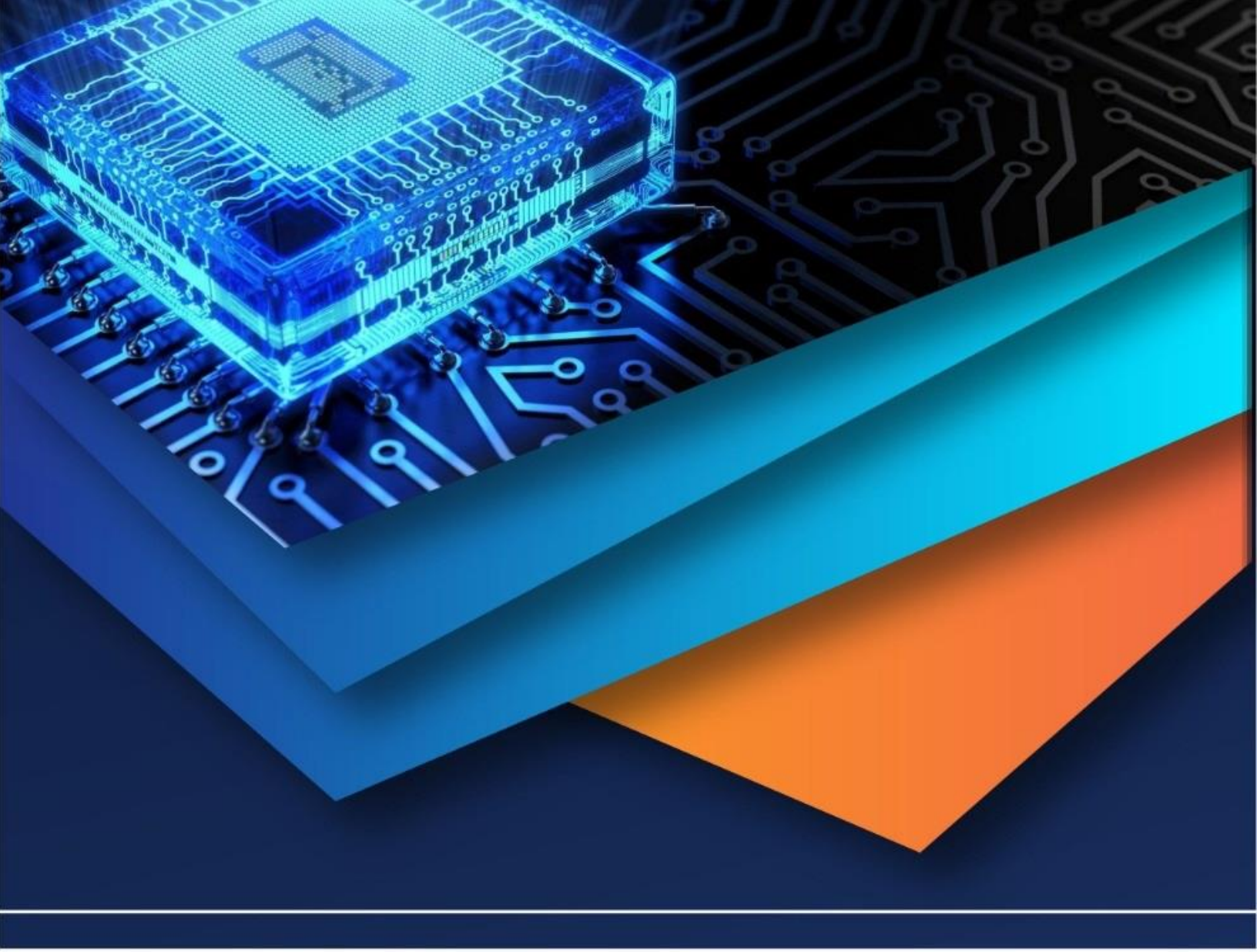

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