

Personalised Tag Sensing for Photos on Social Websites

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Abstract – The tag sensing becomes very important to organize and search photos on social websites. In this paper we focus on the personalised tag sensing and try to identify user preferred and geo-location specific as well as similar tags by using rich context of the freely available community contributed photos. Different users have different tags according to geo-location and user preference therefore we propose a subspace learning method which is used to individually uncover the space shared by both types of preferences that is user preference learning and geolocation learning. The goal of our work is to identify the space shared by the visual and textual domain and to make the visual features and textual features comparable. Considering that textual features have higher level representation than the visual features, therefore to bridge the semantic gap between these two features first we have to map the visual features into an intermediate space, and then perform the transform from the intermediate one to the unified space. Given an untagged photo with its geo-location to a user, the user-preferred and the geo-location-specific tags are found then we combine the obtained tags and the visual appearance of the photo to discover the semantically and visually related photos, among which the most frequent tags are used as the recommended tags.

Index Terms – Geo-location preference, personalized tag sensing, subspace learning, user preference, unified space.

1. INTRODUCTION

Online photo services such as flickr and picasa allow users to share their photos with family, friends, and the online community in huge amount. An important fact of these services is that users manually provide information for their photos using tags, which provide additional textual and semantical information. Tagging allows user to find out related images when finding that image later, therefore we are considering the user's tagging history to search the uploaded image later. User can assign tags for photos manually but it is very time consuming because of huge amount of photos on social

websites. Tag sensing specifies user to assign more tags in connecting gap between user tags and visual features of that images, which provide desired solution for CBIR (Content Based Information Retrieval). Many tag recommendation methods have worked upon connection between tags and photos. Fig.1 Users have favor for photos while searching.

1) User can assign different tags for different photos e.g. photos can be categorized such as architectural, natural, scientific etc. Some users favour natural landscape while other are in the favour of architectural view[10].

2) Single photo can be tagged by two or more users with same or different tag without considering the user preference or the geolocation of that image.

Now a days ,people are interested to click their photos on different location and upload that photos on social websites and also users like to create photo album with respect to the places they have visited but it is time consuming process to organize the photos according to different geolocation. But the solution to this task can be done by adding geo tags for photos. Geo tagging is the process of adding geographical information to photos. Geotagging contains longitude, latitude, city name etc. Same tags can be recommended to visually similar photos of user but if geo favor of user is considered then it will recommend photos that are relevant with location. However, it becomes very difficult for these assisting methods to identify there are multiple places very similar to each other. For example Forts in Maharashtra. The pinnacles of these forts are so similar if seen in pictures, it becomes highly impossible to distinguish between them [9].

There exist two challenges:

1) To learn relevance of given tag to the visual content of the image.

2) Image and Text are different and there is also a gap between them, to find common relation between the image and photo is the very crucial task .

To resolve these challenges, Personalized Geo-Tag Recommendation for Community Shared Images is used. It recommends tags based on users specific interest and geo specific interest, so that user can search that images on the basis of geolocation and user preference learning also we are using the user's tagging history to tag the photos. On the basis tagging history of the user , tags are suggested to the new user if user want to continue with that tags or want to add new tag it is totally on the user's point of view.

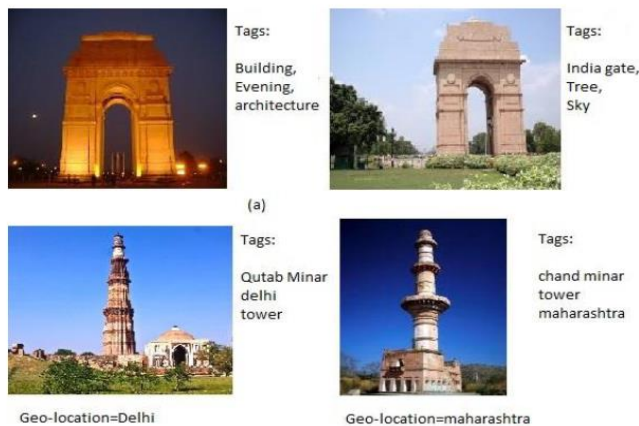


Fig.1 Tagging Behavior of user

2. RELATED WORK

Generic Tag Recommendation [1]:The generic tag recommendation is method by which same list of tags are suggested for the same photos.

Tag Recommendation: Tag recommendation is a method which is proposed by chen.et.al[2] that directly predicts the possible list of tags.

Shen et al. [3] proposed a multi-task structured SVM algorithm to leverage both the inter-object correlations and the loosely-tagged images. Images are annotated purely based on visual features.

Poisson Mixture Models and Gaussian[4] process are proposed to make effective and efficient tag recommendations. In [4], tag concepts derived based on tag co-occurrence pairs are indexed as textual documents.

Moxley et al. [5] and Kleban et al. [6] introduced typical approach to annotate a given image by constrained nearest neighbor (CNN) voting, where the visual neighbors are retrieved from the geo region of the given image.

Silva et al. [7] annotated georeferenced photos with descriptive tags by exploring the redundancy over the large volume of

annotations available at online repositories with other georeferenced photos.

However, the above methods ignore the user preference and suggest same tags to visually similar photos of different users, to solve these problem our proposed system is helpful.

3. PROPOSED MODELLING

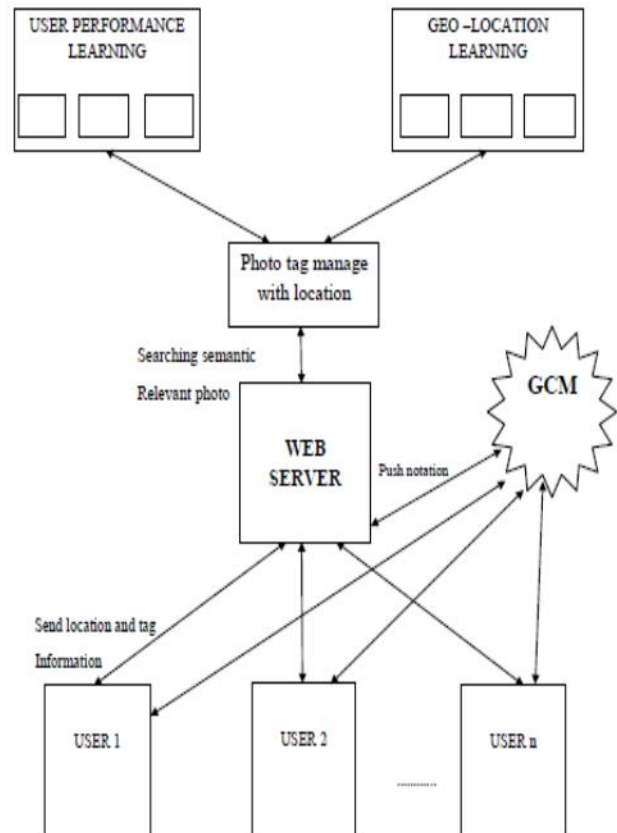


Fig:-2 System Architecture for proposed system

Our proposed framework works online as well as offline. The offline technique involves the operations like

- Data Collection
- Tag Representation in Unified Space
- Geolocation Learning and
- User Preference Learning

3.1)Data Collection:

Which is done from Flickr that has a huge number of pictures that are tagged with some information regarding picture. We organize the photos with respect to different users and geolocations separately.

3.2) Tag Representation In Unified Space:

The unified space for the visual and the textual stats is now evaluated which eventually is the comparison between visual features and tagging information.

3.3) Geolocation Learning:

Geoloaction means the location where the picture has been captured etc. In geolocation preference learning the images are selected whose have their geolocation.

3.4) User preference Learning:

In this module the information about the preferences of a user is stored and Where taggers have personal preference for images. The unified space for the visual and the textual space is now evaluated which eventually is the comparison between visual features and tagging information.

In the online technique, whenever the new photo is uploaded firstly the two types of tags are suggested for that image that is user favour tag and on the basis of geolocation. Then it will compared in the user specific unified space and the geo-specific unified space respectively then semantically relevant photos are elected on the basis of nearest neighbor search and again the uploaded photo is retrived by content based image retrival, and then we have to compare these both that is textual feature and the visual feature for this purpose a subpace learning method is proposed, that will first map the visual feature in the intermediate space and then the texual space intermediate space are mapped into the unified space and the most preffered tag is suggested to the photos.

4. RESULTS AND DISCUSSIONS

In this paper we focused on the personalised tag sening method. In the previous work they have also used personalized tag sensing method but in our work we are focusing on the subpace learning method. The subpace learning method is used to uniquely identify both tyes of prefences that is user preference learning and geospecific learning. In the geospecific learning we are considering the latitude and longitude of the location on the basis of that that location will be shown in the map,so that we can easily find that place, So,for the user convenient purpose this personalized tag sensing method is very useful and helpful for them.

5. CONCLUSION

In this work, we suggest the personalised tag for newly updated photos using user preference learning such as tagging histories of users, and again we suggest the tag for the new updated photo on the basis of geolocation learning like the latitude and longitude values. we propose to mine the personalized tags for new updated photos using user's tagging histories and geographic information and to independently find the user

preference and Geo-location preference regarding tags as the constructive finds obtained from the proposed system.

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