"Multi-Attribute Tag Based Image Search By Social Re-Ranking"

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ABSTRACT: Social media sharing websites like Flickr allow users to annotate images with free tags, which significantly contribute to the development of the web image retrieval and organization. Tag-based image search is an important method to find images contributed by social users in such social websites. However, how to make the top ranked result relevant and with diversity is challenging. In this paper, we propose a social re-ranking system for tag-based image retrieval with the consideration of images relevance and diversity. We aim at re-ranking images according to their visual information, semantic information and social clues. The initial results include images contributed by different social users. Usually each user contributes several images. First we sort these images by inter-user re-ranking. Users that have higher contribution to the given query rank higher. Then we sequentially implement intra-user re-ranking on the ranked users image set, and only the most relevant image from each users image set is selected. These selected images compose the final retrieved results. We build an inverted index structure for the social image dataset to accelerate the searching process.

KEYWORDS: **Social Media, Tag-based Image Retrieval, Social Clues, Image search, Re-ranking**

I.   INTRODUCTION

The following parts present the existing works related to the above three aspects respectively.

- Tag Processing Strategy

It has been long acknowledged that tag ranking and refinement play an important role in the re-ranking of tag-based image retrieval, for they lay a firm foundation on the development of re-ranking in tag based image retrieval (TBIR).

- Relevance Ranking Approach

To directly rank the raw photos without undergoing any intermediate tag processing, utilized an optimization framework to automatically rank images based on their relevance to a given tag. Visual consistency between images and semantic information of tags are both considered. Proposed a hypergraph learning approach,which aims to estimate the relevance of images. They investigate the bag-of-words and bag-of-visual words of images, which are extracted from both the visual and textual information of image. proposed a Support Vector Machine classifier per query to learn relevance scores of its associated photos. proposed a two-step similarity ranking scheme that aims to preserve both visual and semantic resemblance in the similarity ranking. In order to achieve this, a self-tune manifold ranking solution that focuses on the visual-based similarity ranking and a semantic-oriented similarity re-ranking method are included.

- Diversity Enhancement

The relevance based image retrieval approaches can boost the relevance performance; however the diversity performance of searching are often ignored. Many researchers dedicated their extensive efforts to solve this problem. Proposed a hierarchical clustering method to cluster the search results into different semantic clusters by using visual, textual and link analysis. Similarly, in, studied three visually diverse ranking methods to re-rank the image search results based on the visual characteristics of these images. Different from clustering, proposed a re-ranking method to meet users ambiguous needs by analysing the topic richness.

II. LITERATURE REVIEW

"Ranking of Images Based on Tags", Aug 2017:-The Previous system problem is user tagging is known to be uncontrolled, ambiguous, and overly personalized, a fundamental problem is how to interpret the relevance of a user-contributed tag with respect to the visual content the tag is describing. We propose solution to the system is a social re-ranking method for tag based image retrieval. It is a new approach of tag image re-ranking for social dataset. It can be used for retrieving images on the basis of tagging. This approach for Social image analysis and retrieval is important for helping people organize and access the increasing amount of user-tagged multimedia.

Tag-based image search is an important method to find images contributed by social users in social websites.

"A Survey on Tag Based Image Search by Social Re-ranking", February- 2017:- Day to day the amount of tablet or mobile devices and web services are increasing speedily and the victory of many online social media websites, which allow users to create and share media information such as images and videos as well as describe the created content with tags. Social media sharing websites like Flickr or "Picasa" allow users to annotate or tag images with free tags, which notably support to the development of the web image retrieval and organization. Tag-based image search is an important and effective method than Content based image search to find images contributed by social users in such social websites like Flickr and Picasa.

"Relevance and Diversity of Images by Using Tags.", December 2017:- Now a day, there is a growth of digital images and video archives. Some of these are very important from user point of view. The collection of these digital images may be for personal use and may be for public use. For searching images in the database, there is the need of secure, fast and efficient techniques. Tag-based image search is an effective technique to find images in the databases and in the social websites.

"Review on Tag based Image Search by Social Re-Ranking", August-2017:- There are many photos sharing websites like Flickr which allow users to annotate pictures with descriptive keywords called tags. Tag based image search helps to find images contributed by users in such social media sharing websites, which significantly support to the development of the web image retrieval and organization. How to make top positioned ranked result relevant is the challenging problem.
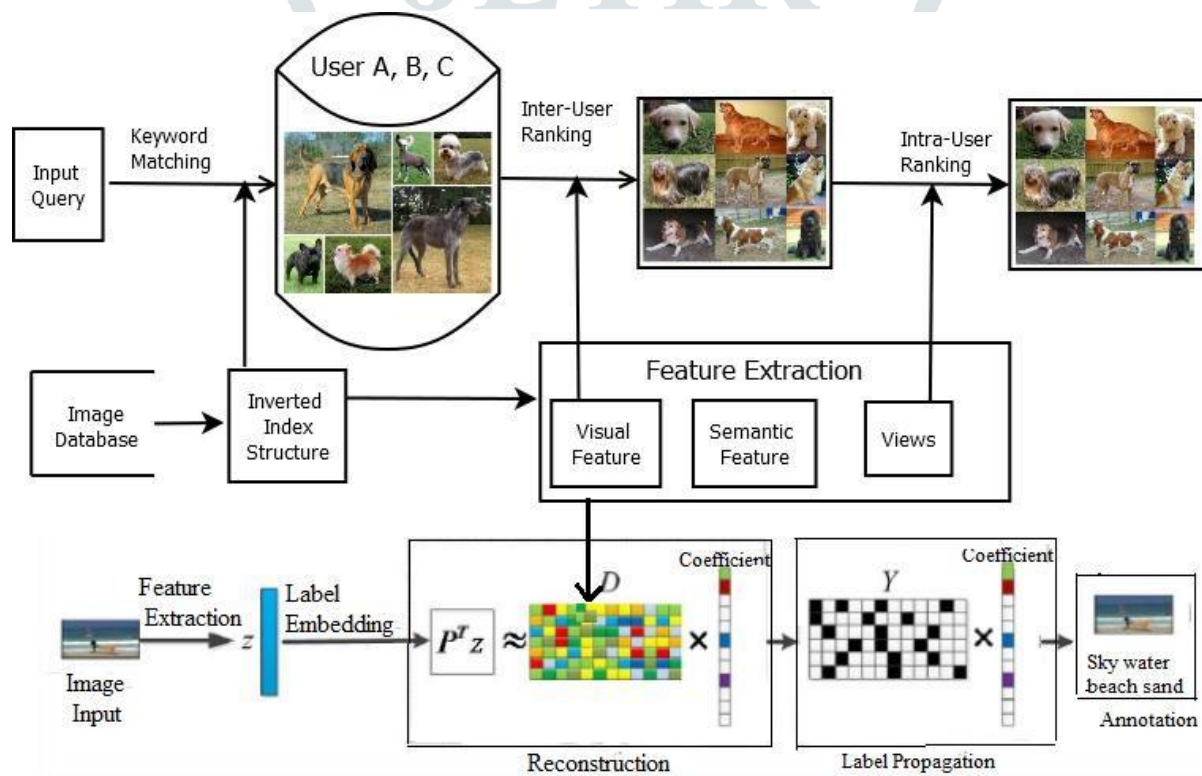
III. SYSTEM ARCHITECTURE

Figure1: System Architecture.

The proposed system will avoid the unwanted result to user. We propose a social re-ranking system for tag-based image retrieval with the consideration of image's relevance and diversity. Usually each user contributes several images. First we sort these images by inter- user re-ranking. Users that have higher contribution to the given query rank higher. Then we sequentially implement intra-user re-ranking on the ranked user's image set, and only the most relevant image from each user's image set is selected. These selected images compose the final retrieved results.

Methodology

1) Tag Based Image Retrieval:
    Tag-based image search is an important method to find images contributed by social users in such social websites. However, how to make the top ranked result relevant and with diversity is challenging. In this paper, we propose a social re-ranking system for tag-based image retrieval with the consideration of image's

relevance and diversity. Tag-based image search is more com-monly used in social media than content based image retrieval and context-and-content based image retrieval.

2) Social Tags:

Tag mismatch. Social tagging requires all the users in the social network to label their uploaded images with their own keywords and share with others. Different from ontology based. image annotation, there is no predefined on-tology or taxonomy in social image tagging. Every user has his own habit to tag images. Even for the same image, tags contributed by different users will be of great difference.

3) Image Search:

The tag-based image search can be easily accomplished by using the tags as query terms. However, the weakly relevant tags, noisy tags and duplicated information make the search result unsatisfactory. Most of the literatures regarding the re-ranking of the tag-based image retrieval focus on tag processing, image relevance ranking and diversity enhancement of the retrieval results.

4) Social Re-ranking:

We build an inverted index structure for the social image dataset to accelerate the searching process. Experimental results on Flickr dataset show that our social re-ranking method is effective and efficient. We first get the initial results by keyword matching process.

a. **ADVANTAGES**

- Tag-based image search is an important method to find images contributed by social users in such social websites.

- This project propose a social re-ranking system for tag-based image retrieval with the consideration of image's relevance and diversity.

- We aim at re-ranking images according to their visual information, semantic information and social clues.

- The initial results include images contributed by different social users. Usually each user contributes several images.

IV.   CONCLUSION AND FUTURE WORK

In this Project, we propose a social re-ranking method for tag-based image re- trieval. In this social re-ranking method, inter-user re-ranking and intra-user re- ranking are carried out to obtain the retrieved results. In order to enhance the diver- sity performance, user information is firstly introduced into our proposed approach and obtains satisfactory results. Besides, views of social image is also firstly fused into a traditional regularization framework to enhance the relevance performance of retrieved results. However, in the inter-user ranking process only user's contribution is considered and the similarity among users is ignored.

In addition to this, many information in Flickr dataset are still ignored, such as title information, time stamp

and so on. For future work, we will investigate the similarity among user groups in Flickr dataset. Therefore, we can

fuse these relationships to enhance the diversity performance of image ranking system.

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