

A Literature Survey on Web Image Re-Ranking

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Abstract- Image re-ranking, as an effective way to improve the results of web based image search. This have been adopted by current commercial search engines. The query-specific semantic signature is also striking in this application, where it is crucial to reduce the semantic gap when computing the similarities of images. Due to the ambiguity of query keywords, there may be multiple semantic categories under one keyword query. These approaches cannot absolutely capture users' search intention without query images selected by users. The visual features of images are projected into their related visual semantic spaces to get their semantic signatures.

Index Terms- Image Search; Image Re-Ranking, query image, Keyword Expansion, query keyword.

I. INTRODUCTION

Image searching is the process of finding relevant images on web search engines. A huge database has been maintained to store and retrieve images at server side. The image search has become an important feature of multimedia. It plays an important role in daily life. Some image search query results are satisfactory and some are unsatisfactory. The web image search mostly depends on the surrounding text of the image. It is difficult to understand the user intention only by query keywords and this leads to irrelevant image search results. In this paper the methods developed by different researchers in the area of web image search are reviewed. These methods vary from textual information search to user feedback. Also some methods are depending on the visual similarities between the images. To improve the result of web image search, strategies like keyword expansion, active re-ranking is also used. This paper focuses on the methods introduced.

A. Old Image Re-ranking Framework:

Most of the web image search engines have adopted the strategy. A query keyword input by a user a pool of images relevant to the query keyword are retrieved by the search engine. The response as a result to this is according to a stored word-image index file by the user to select a query image which observes the user's search objective, from the set, the remaining images in the set are re-ranked based on their visual features are not selected and similarity scores of images are stored whenever a new image is added into the dataset and we have to compute its similarities with existing images, then the visual features need be computed one more time and so on. If the visual features are discarded

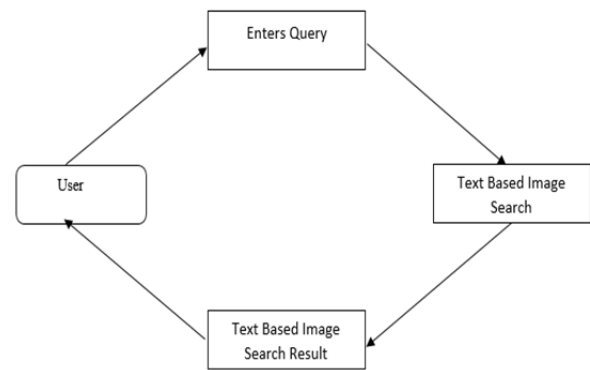


Fig 1: System Architecture

and only the similarity scores of images are stored, whenever a new image is added into the collection and we have to compute its similarities with existing images, then the visual features need be computed again. It is popular in all types of search engines. But it gives ambiguities in result. Example user has entered query 'sony', so as the entered query is not specific system can retrieve images like 'sony logo', 'sony TV' knowledge about query keyword else he can't get useful images. The semantic meaning of query keyword may be different than intended. The search engine provides additional text keyword suggestion when user enters the query its advantageous but it may possible that user may get diverted from its way., 'sony Mobile', 'sony company images' etc.

The proposed novel framework considers each web page as a voter to vote the relatedness of keyword to the web image, the proposed approach is a combination between image low level feature and textual feature but it take into consideration the semantic meaning of each keyword that expected to enhance the retrieval accuracy. The proposed framework is for web based image re-ranking. The semantic space related to the images to be re-ranked can be significantly narrowed down by the query keyword provided by the user. In this method the query keyword is first retrieve a set of images based on the keyword. Then user is asked to pick an image from these images. Also the rest of images are re-ranked.

II. LITERATURE SURVEY

Image search re-ranking methods usually fail to capture the user's intention when the query term is abstruse. Therefore, active re-ranking is highly demanded to improve search performance. This paper presents a structural information based sample selection strategy to

target the user's intention to reduce the user's labelling efforts. To select the most informative query images, the structural information based active sample selection strategy takes both the ambiguity and the representativeness into consideration [2].

It proposes to use adaptive visual similarity to re-rank the text based search results. A query image is first categorized into one of several predefined intention categories, and a specific similarity measure is used inside each category to combine image features for re-ranking based on the query image. It is effective way to dramatically improve the user experience.

A real time image search engine is developed for on-line image search with re-ranking: The proposed Adaptive Similarity is motivated by the idea that a user always has a specific intention when submitting a query image. But it was hard for the eight weighting schemes to cover the large variety of all the web images. It was also likely for a query image to be classified to a wrong category [3]. A combination of query-by-visual-example and semantic retrieval, denoted as query by-semantic-example, is

proposed. Images are labeled with respect to a vocabulary of visual concepts, as is usual in SR. Each image is then represented by a vector, referred to as a semantic multinomial, of posterior concept probabilities.

Retrieval is based on the query-by-example paradigm: the user provides a query image, for which a semantic multinomial is computed and matched to those in the database. QBSE produces retrieval systems that are more accurate than what was previously possible [4]. Introduction to a Human Computer Interaction approach to CBIR based on relevance feedback. It is not like the computer centric approach where the user has to precisely decompose his information need into different feature representations and precisely specify all the weights associated with them the proposed interactive approach allows the user to submit a coarse initial query and continuously refine his information need via relevance feedback. For web scale user's feedback has to be limited. This approach greatly reduces the user's effort of composing a query and captures the user's information need more precisely [5].

Paper	Proposed	Conclusion
Active Re-ranking for Web Image Search	To reduce labelling efforts, use an active sample selection strategy and a dimension reduction algorithm. For learning the visual characteristics uses a new local-global discriminative dimension reduction algorithm which transfers the local information in the domain of the labelled images domain to the whole image database	To select the most informative query images, the structural information based active sample selection strategy takes both the ambiguity and the representativeness into consideration.
Real time Google and live image search re-ranking	To rise up the search result accomplished by user of Google image Search a real time re-ranking algorithm is used.	It defines eight predefined categories for grouping and assigned a different feature weighting scheme to lidding a large diversity of image.
IntentSearch: Capturing User Intention for One-Click Internet Image Search	To resolve the ambiguity of text based search the visual information of image is taken into consideration. For adaptive similarity images are first categorised in some types. For this user has used weighting scheme strategy.	Provides a technique to capture user intention in one single click. User can search images on single click and he can get intended images as a result.
Relevance feedback: a power tool for interactive Content-based image retrieval	Working is based on the information gathered from users feedback on the assumption made by user is consistant. Depending on the feedback information, the system will either assign or adjust the weights.	It requires user's more efforts to select multiple relevant and irrelevant examples.

IV. CONCLUSION

In this paper, we have reviewed an Internet based image search approach. After a review of existing techniques related to web image re-ranking, we point out that these methods are not powerful enough to retrieve images efficiently by its including semantic concepts. The proposed work presents an approach to re-rank the web based images by narrow down the semantic gap between query keywords. The query-specific semantic signatures extensively improve both the proper and efficiency of image re-ranking.

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