

Mining Weakly Labeled Web Facial Images for Search-Based Face Annotation

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Abstract: Investigates a framework of search-based face annotation by mining weakly labeled facial images that are freely available on the World Wide Web (WWW). One challenging problem for search-based face annotation scheme is how to effectively perform annotation by exploiting the list of most similar facial images and their weak labels that are often noisy and incomplete. To tackle this problem, we propose an effective unsupervised label refinement (ULR) approach for refining the labels of web facial images using machine learning techniques. We formulate the learning problem as a convex optimization and develop effective optimization algorithms to

solve the large-scale learning task efficiently. To further speed up the proposed scheme, we also propose a clustering-based approximation algorithm which can improve the scalability considerably. Investigate and implement a promising search based face annotation scheme by Mining large amount of weakly labeled facial images freely available.

Keywords

Algorithms, Measurement, Performance, Reliability, Security, Standardization, Theory, Verification.

1. INTRODUCTION

Due to the popularity of various digital cameras and the rapid growth of social media tools for internet-

based photo sharing, recent years have witnessed an explosion number of digital photos captured and stored by consumers. A large number of photos shared by users on the internet are human facial images. Some of these facial images tagged with names, but many of them are not tagged properly. This has motivated the study of auto face annotation, an important technique that aims to annotate facial images automatically. Auto face annotation can be beneficial to many real-world applications. Classical face annotation approaches are often treated as extended face recognition problems, where different classification models are trained from a collection of well-labeled facial images by employing the supervised or semi-supervised machine learning techniques. Search based face annotation (SBFA) aims to tackle the automated face annotation task by exploiting the Content based image retrieval (CBIR) in mining massive weakly labeled facial images on the web.

The SBFA frame work is data-driven and model-free. This to some extent is inspired by the search-based annotation techniques.

2. LITERATURE SURVEY

There are many privacy-preserving profile matching protocols. They aim to determine the overall similarity of two profiles rather than their relation in specific attributes. They commonly check whether the proximity measure of the two profiles is larger, equal or smaller than a pre defined threshold value. The proximity measurement can be the size of the intersection of two sets or the distance of two vectors where sets and vectors are used to represent profiles. They don't consider the larger, equal, or smaller relations of the attribute values as the matching metrics. Moreover, the profile matching results are revealed to the participating users in certain conditions, and behavior linkage happens when the matching results are distinctive. Consider users adopt

the multiple-pseudonym technique, i.e., users achieve high anonymity by frequently changing unlikable pseudonyms in the communication. Hence the privacy-protection of users is related to both their profiles and their profile matching results. Mobile social networks as emerging social communication platforms have attracted great attraction recently, and their mobile applications have been developed and implemented pervasively. In mobile social networking applications, profile matching acts as a critical initial step to help users, especially strangers... Initialize conversation with each other in a distributed manner.

3. PROBLEM STATEMENT

Existing object recognition techniques to train classification models from human-labeled training images or attempt to infer the correlation/probabilities between the images and annotated keywords. Given limited training data, semi-supervised learning methods have also been used for image annotation.

Disadvantages of existing system:

1. Local binary system not find clear image.
2. It's take lot of time for find the image.

5. Proposed system

We investigate and implement a promising search based face annotation scheme by mining large amount of weakly labeled web facial images freely available on the WWW. We propose a novel ULR scheme for enhancing label quality via a graph-based and low-rank learning approach.

Advantages:

1. Easily get the images using face code word from database. We can easily get the images from database according to face code
2. Very faster than old system. Whenever comparing with old system, it is very faster

Architecture:-

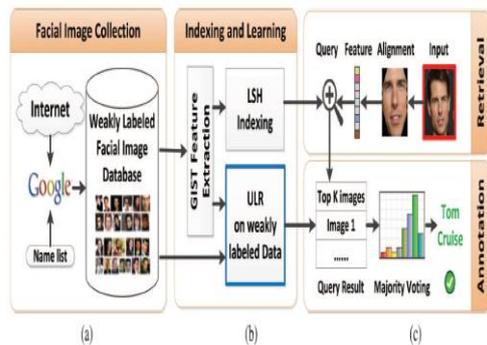


Fig: The architecture of facial image collection from database

6. Modules:

1. Content-based image

search Content based image retrieval (CBIR), also known as query by image content (QBIC) and content based visual information retrieval (CBVIR) is the application of computer vision techniques to the image retrieval problem, that is, the problem of searching for digital images in large databases.

2. Face Annotation The classical annotation approaches usually apply some existing object recognition techniques to train classification models from human-labeled training images or attempt to infer the

correlation/probabilities between images and annotated keywords.

3. Face Annotation performance on database

This experiment aims to verify the annotation performance of the proposed SBFA framework over a large retrieval database: “DB1000.”

As the test database is unchanged, the extra facial images in the retrieval database are definitely harmful to the nearest facial retrieval result for each query image. A similar result could also be observed where the mean average precision became smaller for a larger retrieval database.

7. CONCLUSION AND FUTURE WORK

This paper investigated a promising search-based face annotation framework, in which we focused on tackling the critical problem of the enhancing the label quality and proposed a ULR algorithm. To further improve the scalability, we also proposed a clustering-based

approximation solution, which successfully accelerated the optimization task without introducing much performance degradation. From an extensive set of experiments, we found that the proposed technique achieved promising results under a variety of settings. Our experimental results also indicated that the proposed ULR technique significantly surpassed the other regular approaches in literature. Future work will address the issues of duplicate human names and explore supervised/semi-supervised learning techniques to further enhance the label quality with affordable human manual refinement efforts.

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