

A Review on Retrieve Web Facial Images for Search-Based Face Annotation

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Abstract: This system 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, system propose an effective unsupervised label refinement (ULR) approach for refining the labels of web facial images using machine learning techniques. This system formulates the learning problem as a convex optimization and develops effective optimization algorithms to solve the large-scale learning task efficiently. To further speed up the proposed scheme, also propose a clustering-based approximation algorithm which can improve the scalability considerably.

Keyword:- Face annotation, Content-based image retrieval, Machine learning, Label refinement, Web facial images, Weak label

1. INTRODUCTION

Recently, some emerging studies have attempted to explore a promising search-based annotation paradigm for facial image annotation by mining the World Wide Web (WWW), where a massive number of weakly labeled facial images are freely available. Instead of training explicit classification models by the regular model-based face annotation approaches, the search-based face annotation (SBFA) paradigm aims to tackle the automated face annotation task by exploiting content-based image retrieval (CBIR) techniques, in mining massive weakly labeled facial images on the web. The SBFA framework is data-driven and model-free, which to some extent is inspired by the search-based image annotation techniques for generic image annotations.

1.1 Problem Definition

For Public Sector and Government Agencies, with tens or hundreds of thousands of documents, a document management system is becoming a mandate to organize, index and control their documents in a hassle free manner. Public Sector and Government Agencies deal with Documents which range from Public View documents, Tenders, to the most Confidential and Secret Documents which are intended only for view of certain designated personnel. Storing all these documents as physical records not just consumes a lot of space but also is a tedious affair to let these documents and manage them safely with restricted access. So we are providing one digital solution to this problem with RFID card and fingerprint scanner. User will get authenticated by unique id of RFID associated with each document.

Motivation

- Developments in the area of image mining have shown the way for incredible growth in extensively large and detailed image databases.
- The images which are available in these databases, if checked, can endow with valuable information. This paper investigates a framework of search-based face annotation (SBFA) by mining weakly labeled facial images that are freely available on the World Wide Web (WWW).
- One challenging problem for the 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 approach for refining the labels of web facial images using machine learning techniques.

OBJECTIVE

The main objective of search-based face annotation is to assign correct name labels to a given query facial image.

2. LITERATURE SURVEY

Literature survey is the most important step in software development process. Before developing the tool it is necessary to determine the time factor, economy n company strength. Once these things r satisfied, ten next steps are to determine which operating system and language can be used for developing the tool. Once the programmers start building the tool the programmers need lot of external support. This support can be obtained from senior programmers, from book or from websites. Before building the sys- tem the above consideration are taken into account for developing the proposed system.

Different techniques are used in retrieving web based facial images based on search annotation:

Authors: W. Zhao, R. Chellappa, P.J. Phillips, Classic Model of Face Annotation. [1]

In this model, we usually compare the input Image with the Images available on Internet or their trained Database. Which was time consuming and also not used to produce accurate result as per requirement. This system was challenging because of following factors:

1. Illumination
2. Lighting
3. Camera Quality
4. Different Alignment of faces etc.

Authors: J.Y. Choi, W.D. Neve, K.N. Plataniotis, and Y.M. , Repet- itive Framework for Face Annotation [2].

It works recursive manner for face annotation. Here user gives input as Image and the proposed system labels it according to features and stored it in database if it new

and next time when same images given as input then system will check local database and the matched results are displayed to the user. And the above process continues recursively until we get better results.

Authors: Dong Yi, Zhen Lei and Stan Z. Li, Pose Adaptive Face Matching [3]

In this method, the system compares the images to find out identical features based on following factors:

1. Illumination
2. Lighting
3. Camera Quality
4. Different Alignment of faces etc.

This gives efficient way of matching. Hence the results are proper and a wide range Images are available as Labeled Faces on the internet. In this, the face micro pattern encoding is done but the problem with this is pattern sampling sis done manually.

Authors: D. Ozkan and P. Duygulu, Graph Based Approach [4]

Here the system had considered the nodes and edges as features of the image for considering likeness of the images. The graph become heavy if the same face of the person occurred frequently and if not the graph becomes sparse. A graph can be represented as

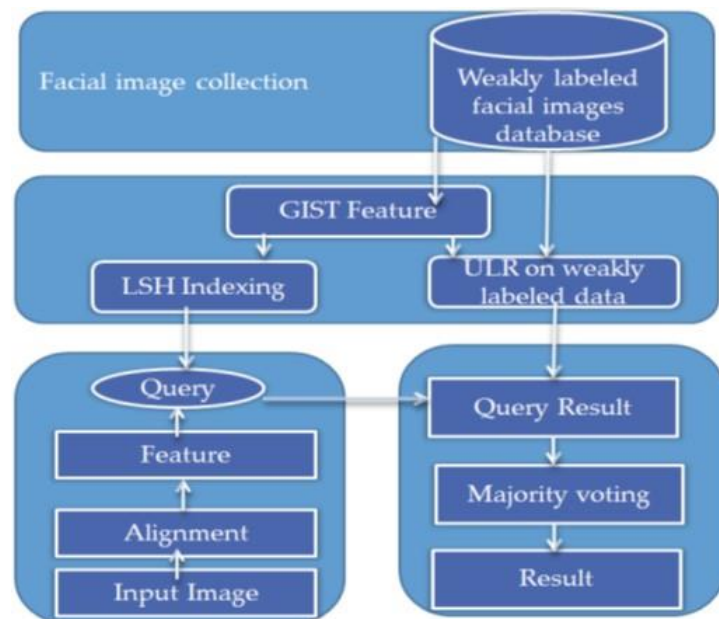
$$G = (V, E),$$

Where, V is the faces, E is facial features

And weight is according to the similarity. They develop this system to find sim- ilar subset of faces with the query of the persons name. They use greedy algorithm afterwards.

3. PROPOSED SYSTEM

PROPOSED SYSTEM



System Architecture

Our system is divided into two phases. Before test phase and during test phase. In system first four steps comes under before test phase and last two comes under during test phase. Fig. delineates the framework stream of the proposed system of search based face annotation, which comprises of the taking after steps:

1. Data collection of facial images
2. Indexing of high-dimensional facial feature
3. Refinement of weakly labeled data
4. Retrieval of similar face
5. Majority voting on the similar faces with the refined labels for face annotation

The initial four stages are generally directed before the test period of a face annotation undertaking, while the last two stages are directed amid the test period of a face annotation errand, which normally ought to be carried out effectively. We quickly portray every venture underneath.

3.3 Advantages of Proposed System

- Easily get the images using face code word from database.
- Very faster than old system

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5. CONCLUSION

This system investigated a promising search-based face annotation framework, in which we focused on tackling the critical problem of 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.

6. REFERENCES

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