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Recognizing Celebrity Faces in Lot of Web Images

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ABSTRACT
Now a dayscelebrityrelatedqueriesrankingconstantlyamong all the image queries.On the other hand celebrity images on web provide a greatopportunity for constructing large scale training datasets to advance face recognition. Collecting and labelingcelebrity faces fromgeneral web images is a challengingtask. In thisproblemwe are using the surroundingtext in web images such as name, location, time etc., then the image isannotedusing image annotation system and nameassignment system thenfinding the near duplicate image and at lastgetting the correct result.In thiswayusercanidentify the person in the web images.
Keywords – Face Recognition System, Image Annotation System, Image Database, Information Retrieval and name assignment

I. INTRODUCTION

Increasing trend of web images arise the interest of end users. Now a daysweseethat on any site home page or on the web pages thereexistnumber of images. Because of digital cameras the trend arrive to capture the image and uploadit on the web quickly.Wheneverusersaccesses the websitestheysees the images on web pages whichbecomes the interest of them. Theytry to observe that images and recognizeit. But sometimesthey are able to recognize and sometimesthey are not.Theystartsthinking about the image ofwhichtheywant to get information. The question arise herethat how to recognize the person in web images. There are manyways to find out the candidate in web images such as image annotation system, face recognition system, pattern recognition system etc.

Among all web image queries the celebrityrelatedqueries are constantlyranking. Thecelebrity images on web provide an opportunity for constructing large scale training dataset to advance face recognition. Collecting and labeling celebrity faces from web images is difficult task because of the noise in web data. Firstly, the surrounding text of a web image often comprises words and phrases lacking a standard grammar structure. It isdifficult to use natural language processing techniques to extract celebrity namesand to find out the similarof a celebrityappearing in the image. Secondly, celebrity faces on the web mayexhibit large visual variation due to pose, makeup, expression caused by sunglasses or fancyhairstyles. This layer of "visualnoise" imposes more difficulty for associating names with faces by visualanalysis. This is more difficulttasks ,which focus on labeling faces in lot of web images.

Wediscuss about the differentmethodsused in identifying images.

1.1 FACE RECOGNITION SYSTEM

Face recognition system isused for identifying the personfromany digital image. This system uses feature-basedapproach.In this system the face isrecognizeddepending on the differentfeatures of faces such as eyes, nose, cheekbones, chin, eyebrows, forehead etc. For recognizing the input imagecorrectlythereis the use of database made. This databaseconsist of lots of digital images stored. The face recognition system takes the input image which has to berecognized, then compares the facial features of input image with the facial features of alreadystored digital images within the database and generates the result.[6]

Face recognition from a representationbased on featuresextractedfrom range images isexplored. Speciallyedges, shadows, curves are the featuresused over more traditionalfeatures. Specifically, the properties of the face such as the cheeks, forehead, and chin are used to stronglydifferentiate the faces.Comparisonbetweentwo faces is made based on theirrelationship in the featurespace. Recognition rates are in the range of 80% to 100%. In many cases, featureaccuracyislimited more by surface resolutionthan by the extraction process.

But this system is not good under some circumstances. Some times the remaybe the image of a personwho made the artificial expression, or who have full of make-up due to whichthat image is not to berecognized. Againtheremaybesome conditions such as the person made the use of artificialthings for photo such ashair-wig, beard, mustache, eye glasses etc. In such situations the face recognition system is not good. This system is good for 2-D images but not suited for 3-D images.

1.2 IMAGE ANNOTATION SYSTEM

The Image annotation system isused for indexing images and for retrieving the similar images. [7] It produces a set of labels for an input image whichdescribesthat images. The manual image annotation system isexpensiveway to index and retrieve the images. Now a daythere are number of algorithms are available to automatically [9]index and retrieve the images such as Cross-Media Relevance   Models[3], AutomaticLinguisticIndexingof Pictures - Real Time (ALIPR).The automatic image annotation system is content based.This system provides the greaterway to know the web images. [1]

In this System input image isgiven, and thenitfinds the labels for input image by using annotation vocabulary. The surroundingtext of an image isused to find out the names of celebrities. The namesobtainedfromsurroundingtext   are comparedwith the namevocabulary and then the matchingnames are retrieved and score isgenerated to annotate the image correctly.

But theremaybesome issues in this system such as the noise in surroundingtext, limitedvocabulary etc. due to which the system failssometimes to obtain the correct labels for given input images.

II.   RELATED WORK

Due to the large amount of images available on the web pages itbecomes the end user interest to know about that candidates in the web images. And wealreadydiscussedthatthere are differentways to know about the image such as face recognition system, image annotation system, pattern recognition system [4] etc. But thesesystemsindividually have some issues. So we aretrying to searchmethodwhichgives more approximate output. In ourworkwe are going to construct one large database of digital images and anotherdatabase of celebritynames , location [5]etc. Given an input image we are using the image annotation system which labels the image using the surroundingtext of an image [10]. But thisis not sufficientbecausetheremaybe noise in surroundingtextsowe have to use some solution for obtainingapproximateinformation. So hereweare using the labels of image annotation system to find out the nearestneighbour image. The nearestneighbour image algorithmfinds the images of thatnamesfrom large image database. Then the input image iscomparedwith the output image of nearestneighbouralgorithm.   This comparisonisdonebasedon the facial features. And the matching face and the information about itisretrieved.[8] This is the effective way to find out the approximately correct candidate in the web images.
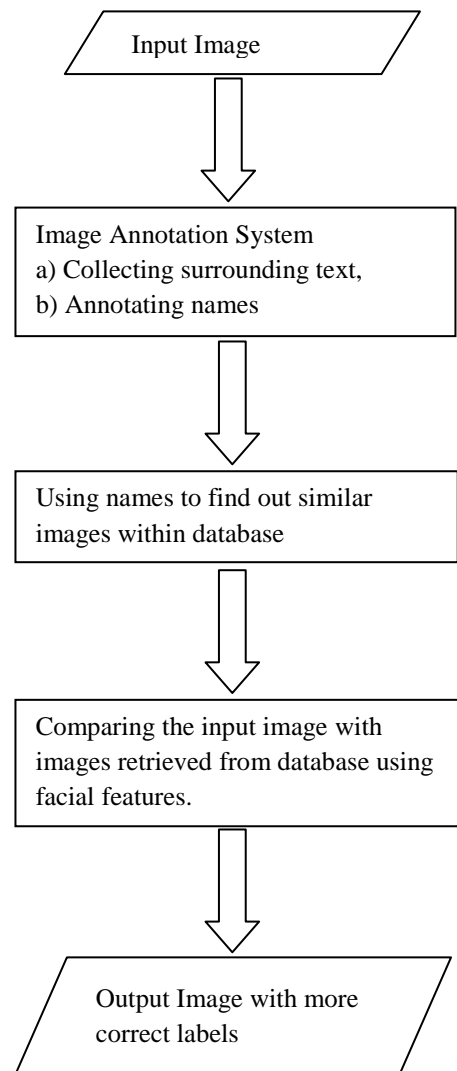
The following figure summarizesthiswork.

Fig. Steps to recognize candidate in web images

III. CONCLUSION

As we know only image annotation system is not able to find the correct candidate in web image. So to increase the strength of solution tothis problem we are using nearest neighbor search method. Thus by using both image annotation system and nearest neighbor search method we can effectively found the approximately correct candidate in the web image.

REFERENCES

[1]   M. Guillaumin, T. Mensink, J. Verbeek, and C. Schmid, *"Face recognition fromcaption-based supervision," Int. J. Comput. Vis. 2011 [Online].* Available: http://hal.inria.fr/inria-00585834/en

[2]   P. Tirilly, V. Claveau, and P. Gros, *"News image annotation on a large paralleltext-image* corpus," presentedat the LREC, Malta, *2010.*

[3]   P. T. Pham, M.-F. Moens, and T. Tuytelaars, *"Cross-media alignment of names and*

faces," IEEE Trans. Multimedia, vol. 12, no. 1, pp. ,Jan. 2010.

[4] *Computer Vision and Pattern Recognition, 1992. Proceedings CVPR '92., 1992 IEEE Computer Society Conference on A featurebasedapproach to face recognition* by Manjunath, B.S. ; Dept. ofElectr. & Comput. Eng., CaliforniaUniv., Santa Barbara, CA, USA ; Chellappa, R. ; von der Malsburg, C.

[5] G. B. Huang, M. Ramesh, T. Berg, and E. Learned-Miller, "*Labeled faces in thewild: A database for studying face recognition in unconstrainedenvironments,*" Univ. Massachusetts, Amherst, MA, Tech. Rep.*, 2007.*

[6] *Computer Vision and Pattern Recognition, 1992. Proceedings CVPR '92., 1992 IEEE Computer Society Conference on Face recognition based on depth and curvaturefeatures* by Gordon, G.G. ; TASC, Reading, MA, USA

[7] R. W. Picard and T. P. Minka", *Vision Texture forAnnotation, In MultimediaSystems, 3(1):3{14, 1995.*

[8] J. La_erty and C. Zhai. *Document languagemodels,querymodels, and riskminimization for informationretrieval, Proceedings of the 24th annualinternationalACM SIGIR Conference, pages 111-119, 2001.*

[9] J. Jeon, V. Lavrenko and R. Manmatha. (2003) *AutomaticImageAnnotation and Retrievalusing Cross-Media RelevanceModels In Proceedings of the 26th Intl. ACM SIGIR Conf.,pages 119–126, 2003*

[10] W. B. Croft. *CombiningApproaches to InformationRetrieval, in Advances in Information Retrievaled.* W.B. Croft, Kluwer AcademicPublishers, Boston, MA.