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Face Detection System

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ABSTRACT:

• Faces in images or video can appear in different lighting conditions, causing shadows or overexposure that affects detection accuracy. • Faces can appear at different angles (e.g., profile, tilted), and the system must detect them even when the face is partially rotated or not directly facing the camera

Keywords: Matrices, Process Mining, Case Management.

Introduction:

Human visual system plays an important role in recognizing information regarding Surroundings. Since visual signal provides with more data than auditory information, visual signals are more effective than auditory signals when the human being perceives information. However, in case of blind people the lack of visual information constrains them in recognizing information. For a blind person to recognize a subject around him depends on the subject to speak some

Objectives:

- The work is focused on developing a face detection and face recognition algorithms brought together for a system for blind people
- System for the blind to navigate in indoor and outdoor environment. It packaged a portable computer in a backpack for data processing from the beacons attached to the body

Litreature Survey:

1. Face Retriever: Pre-filtering the Gallery via Deep Neural Net. The main contributions of this paper are: A cascaded scheme for large-scale face retrieval problem, which addresses the performance and scalability simultaneously. Improved retrieval results on both relatively unconstrained (web downloaded images) and constrained(mugshots) large-scale facial image databases, which contain 5 millions and 1 million gallery images respectively.System which combines a k-NN search procedure with a COTS matcher (PittPatt 3) in a cascaded manner, First step: Pre-filter the gallery set by using the deep learning based facial representations and find the top-k most similar faces to the query face image. Face Detection System Department of Computer Engineering PC Polytechnic Face Detection System Second step: Re-rank the top-k most similar faces by fusing the similarities from deep facial features with the similarities output by PittPatt. Third step: Use a manifold ranking algorithm to fully explore the intrinsic structural information among the top-k face images. 2. Scalable Face Image Retrieval Using Attribute-Enhanced Sparse Codewords. Analyzed the effectiveness of different human attributes across datasets and find informative human attributes. Combine automatically detected high-level human attributes and low-level features to construct semantic codewords. To the best of our knowledge, this is the first proposal of such combination for content-based face image retrieval. To balance global representations in image collections and locally embedded facial characteristics, we propose two orthogonal methods to utilize automatically detected human attributes to improve content based face image retrieval under a scalable framework. We conduct extensive experiments and demonstrate the performances of the proposed methods on two separate public datasets and still ensure real time response. We further identify informative and generic human attributes for face image retrieval across different datasets.The selected descriptors are promising for other applications (e.g., face verification) as well. Face Detection System Department of Computer Engineering PC Polytechnic Face Detection System 3. Novel face recognition system for blind people The work is focused on developing a face detection and face recognition algorithms brought together for a system for blind people. The face detection used the implementation of the algorithms proposed by Viola and Jones, which consist on the frontal face detection. In order to achieve the objective the Haar Cascades functions were used. The face recognition uses the principal Component Analysis of the Eigenfaces algorithms. 4. An Assistance System for Visually Challenged People Based on Computer Vision and IOT. This work presents a working wearable glass that can simplify some of the basic difficulties of a visually impaired person with the help of computer vision and internet of things. The glass can see the surroundings, hear voice commands, process information and send feedback to the wearer through bone conduction technology without blocking ear hole so that the wearer can be connected with the glass and surrounding world simultaneously. The glass recognizes many common objects and known human faces accurately in real time, which provides the wearer a certain

degree of freedom to move alone with less fear in limited environment. Face Detection System Department of Computer Engineering PC Polytechnic Face Detection System 5. Spoof Invariant Facial Recognition System (A Helping Hand For Visual Impaired People). An approach which uses facial recognition methodologies to implement a computational efficient technique for facial biometric application to help visually impaired people. In this system we used LBP for feature extraction to classify image either valid or invalid person using SVM classification so that it helps visual impaired people in improving their lifestyle and safety. The architecture has been verified with both in a real environment Actual users and printed images have achieved very good results

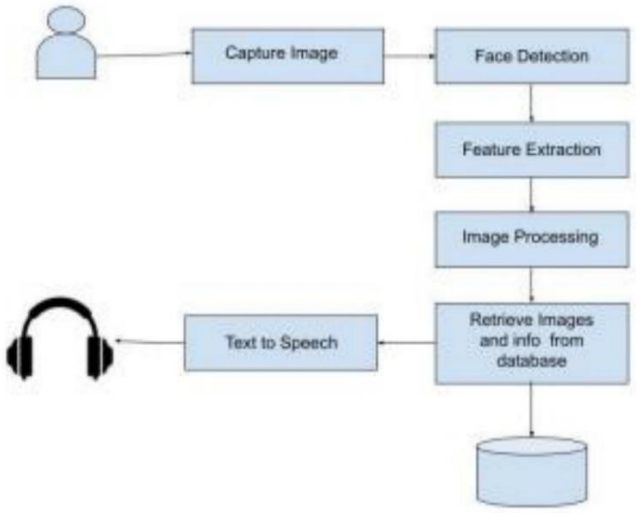
Hardware Requirement

- System : Intel I5 Processor.
- Hard Disk : 40 GB.
- Monitor : 15. • Ram : 8 GB

Software Requirement

- Operating system : Windows XP/07/08/10.
- Coding Language : Python
- Database: SQL

Architectural mode



Execution Plan:

Scope of Project:

The scope of a face detection project involves developing a system that can accurately detect and localize human faces in images or video streams. Key features include multi-face detection, real-time processing, handling occlusions, and rotation/scale invariance. The project will utilize machine learning models and publicly available datasets for traning,

Conclusion:

An architecture for facial identification and spoofing detection oriented to people with visual disabilities. A low vision participant wanted tones along with the speech feedback. Her opinion was if she misses the speech feedback while concentrating on the conversation, tones will be helpful efforts.

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