Abstract

Machine recognition of faces is a biometric process in which face of a person is recognized by comparing the present image of a person with the image already present in the database. Demand is increasing rapidly as recognition is a vigorous research issue because of its non-copier characteristic. Compelling attention has been received by this technology because it has potential for tremendous applications like criminal identification, bank/store security, credit card verification, healthcare, marketing, automatic attendance etc. Face recognition is very secure method but its performance is degraded by some factors. Several researchers have recommended methods to nullify the effects of these factors. This paper provides a review on some effective 2D and 3D face images techniques with pose variations which are compared on the basis of recognition rates. From the discussed 2D face images techniques, recognition rate up to 100% was obtained by Kernal Canonical Correlation analysis (KCCA) only if input images are less than 200 images. If input images are more than 200 then 2D image based approach has higher recognition rate and is also simpler. From the discussed 3D techniques, recognition rate is highest of morphable model and also this technique is not affected by occlusion.
References

1. R. Chellappa, C.L. Wilson, and Sirohey, “Human and Machine Recognition of Faces, A
2. Divyarajsinh N. Parmar, Brijesh B. Mehta “Face Recognition Methods & Applications”
   International Computer Technology & Applications (IJCTA), Vol 4, pp. 84-86 (2013)
3. R.Rajalakshmi, Dr.M.K.Jeyakumar “A review on classifiers used in face recognition
   methods under pose and illumination variations” IJCSI International Journal of Computer
4. Wei-Lun Chao “Face Recognition” GICE, National Taiwan University (2007)
5. Paola Campadelli, Raffaella Lanzarotti and Giuseppe Lipori “Automatic Facial Feature
   Extraction for Face Recognition” pp.558 (2007)
   analysis with scope in India” International Journal of Computer Science and Information
7. Bernd Heisele, Purdy Ho, Tomaso Poggio “Face Recognition with Support Vector
   Machines: Global versus Component-based Approach” International Conference on Computer
   Vision (2001)
9. Thazheena, Aswathy Devi “A review on face detection under occlusion by facial
   accessories” International Research Journal of Engineering and Technology (IRJET) Volume:
   04, pp 672-674 (2017)
11. Xiaozheng Zhang, Yongsheng Gao “Face recognition across pose: A review” Pattern
    Recognition volume 42, pp 2876-2896 (2009)
12. Sumit Shekhar, Student Member, IEEE, Vishal M. Patel, Member, IEEE, and Rama
    Chellappa, Fellow, IEEE, “Synthesis-based Robust Low Resolution Face Recognition” IEEE
    transactions on information forensics and security (2017)
13. Joonwhoan Lee and Deepak Ghimire “A Robust Face Detection Method Based on Skin
14. Meng Yang, Lei Zhang “Gabor Feature based Sparse Representation for Face
    Recognition with Gabor Occlusion Dictionary” European Conference on Computer Vision
15. S. R. Arashloo, and J. Kittler, “Hierarchical Image Matching for Pose-invariant Face
16. Laurenz Wiskott, Jean-Marc Fellous , Norbert Krüger, and Christoph von der Malsburg
    “Face Recognition by Elastic Bunch Graph Matching” In Intelligent Biometric Techniques in
17. Ara V. Nefian and Monson H. Hayes III “hidden markov model by face detection and
18. Yingjie Wang, Chin-Seng Chua,Yeong-Khing Ho “Face Recognition from 2D and 3D
    Images” International Conference on Audio- and Video-Based Biometric Person Authentication,
19. Vijay H Mankar “A review on 2D, 2.5D and 3D image visualization techniques”


Index Terms

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Keywords

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