Abstract

Student attendance system is manual in most part of the world with essential Roll call and answering taking significant time. The objective of this work is to propose a model in openCV that captures live stream from camera and enables multiple face detection and segmentation. The segmented faces can further be used to recognize the students. As such the system leads towards the development of automatic attendance system, where the camera can be static and periodically can take the snap of the class. Further each image is processed to extract the faces. Haar cascade is used for face detection and Gaussian mixture model is used for face segmentation. A test over 1000 images reveals a result with 83% accuracy where accuracy is measured in terms of number of actual face detected v/s the number of faces present in a scene. The test are generated in various angles and light intensity.

References

- Menser, Wien, "Segmentation and Tracking of Facial Regions in Color Image
Sequences"; RWTH, Aachen, Germany, 1999.
- C. Bishop, Neural Networks for Pattern Recognition, Oxford University Press, 1995.

Index Terms

Computer Science Security

Keywords
Face Detection OpenCV Haar Cascade Gaussian Mixture Model