An Iterative Search based Technique to Find or Predict Older Face Images of a Child

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 151
Number 6

Year of Publication: 2016

Authors:

Rustam Ali Ahmed, Bhogeswar Borah

Abstract

The major variations in the appearance of human faces is because of age changes. Due to many lifestyle issues, it is difficult to precisely predict how individuals may look in older years. This work aims to develop a technique for predicting older face images from a given children's face image. This method requires only one input face image of a child and produces different age progressed images of the child at different target ages. This technique might be very helpful to find the missing children. In this method we have proposed a technique to find or construct a synthesize older face images from a given face image dataset. In the proposed work the FG-NET image dataset has been classified with different age groups of face images. Age groups are named by AgeGroup IDs 10-14, 15-19, . . . , 50-54. For a given child image we have applied an iterative approach to find the face images in higher age groups. At the first step an input of a child image of age that is below of the first age group has been taken and searched that image in the face dataset of higher age group. If the face is found, then the founded image is considered as the target image at that age group and that new face is searched in the next higher aged group data set. If it is not found, then a synthesized mean image is constructed with
the input image and the founded nearest image. The same technique is repeated until the
construction of the oldest (of age 50-60) synthesized image computation is completed. Here
age group 50-60 has been considered as the oldest image in the experiment. In this way the
older images of all the respective age groups can be found. Here PCA face recognition
algorithm is used for searching an image from a given dataset.

References

   report.
2. S. Lai A. J. Lin and F. Cheng. Growth simulation of facial/ head model from childhood to
   and face: Implications for forensic science research and applications. Forensic Science
   756, July 1997.
5. C.J. Taylor A. Lanitis and T.F. Cootes. Toward automatic simulation of aging effects on
   face images. IEEE Transactions on Pattern Analysis and Machine Intelligence, 24:442 – 455,
   April 2002.
6. Rustam Ali Ahmed and Bhogeswar Borah. Triangle wise mapping technique to transform
   one face image into another face image. International Journal of Computer Applications,
8. C. J. Solomon C. M. Hill and S. J. Gibson. Aging the human face - a statistically rigorous
9. et al Cheng-TA S. 3d age progression prediction in children’s faces with a small
11. Yun Fu, Guodong Guo, and Thomas S Huang. Age synthesis and estimation via faces:
    2010.
    face aging simulation. Proceedings of the IEEE Computer Society Conference on Computer
16. S. Shan J. L. Suo, X. Chen and W. Gao. Learning long term face aging patterns from
    partially dense aging databases. Proceedings of International Conference on Computer Vision,
    page 622629, 2009.


Index Terms

Computer Science

Image Processing

Keywords

Synthesize Image, Age Progression, Future Image Prediction, Face Image Modeling, Missing Children