Abstract:

Age group classification is one of the emerging research fields for many real time applications in forensic and human computer interactions. In this paper, an efficient age group classification system is proposed using fingerprint images. The age groups classified in this system are adolescence (0-20 years), younger adult (21-40 years) and senior adult (above 41 years). The process of age group classification starts with feature extraction by Undecimated Wavelet Transformation (UWT) and then dominant features selection by feature selection approach. Gaussian Mixture Models (GMMs) are designed by one vs. rest strategies for three group classification. Gender dependent performance of the proposed system is evaluated on male and female fingerprint images. The results show that the proposed system achieves 97.87% and 97.12% at 1st and 2nd stage classification on male fingerprint images and, on female fingerprint images the accuracy obtained is 98.35% and 98%.