Data fusion for skin detection

Abstract

Two methods of data fusion to improve the performance of skin detection were tested. The first method fuses two chrominance components from the same color space, while the second method fuses the outputs of two skin detection methods each based on a different color space. The color spaces used are the normalized red, green, blue (RGB) color space, referred to here as pixel intensity normalization, and a new method of obtaining the R, G, and B components of the normalized RGB color space called maximum intensity normalization. The multilayer perceptron (MLP) neural network and histogram thresholding were used for skin detection. It was found that fusion of two chrominance components gives a lower skin detection error than a single chrominance component regardless of the database or the color space for both skin detection methods. In addition, the fusion of the outputs of two skin detection methods further reduces the skin detection error. © International Symposium on Artificial Life and Robotics (ISAROB). 2009.