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Who Are You? An Image Identification Project Using Wavelet Packet Analysis.

In the last fifty years, face recognition has become one of the most active research areas in pattern identification. It plays an integral role in various applications, including human-computer interaction, authentication, and surveillance. However, large variations in the human face caused by pose, illumination, facial hair, and expression make this problem very complex. The ability of wavelets to capture the spatial and frequency information of an image make them ideal for feature extraction. We will present the modification of a face-based algorithm proposed by C. Garcia, G. Zikos, and G. Tziritas that uses statistical analysis on a level-two wavelet packet decomposition as its classifying criterion. The algorithm, coded using MATLAB, successfully identified each of 25 sample images. (Received September 21, 2010)